100594 United States

EX·LIBRIS·COLL·MED·PHILAD·INSTIT·A·D·MDCCLXXXVII

NON SIBI SED TOTI

Class ______ No. ______

IN EXCHANGE.

3.50

Digitized by the Internet Archive
in 2017 with funding from
The National Endowment for the Humanities and the Arcadia Fund

https://archive.org/details/journaloftenness1119tenn

THE JOURNAL

OF THE

Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI,
Number 1.

NASHVILLE, TENN., MAY, 1918

Per Year, $2.00
Single Copy, 20 Cents

COLLEGE OF PHYSICIANS OF PHILADELPHIA
LIBRARY

CONTENTS

ORIGINAL ARTICLES

Page

The Duty of the Profession in the Present Crisis—Presidential Address by E. T. Newell, M. D., Chattanooga ---------- 1

Proceedings of the Eighty-Fifth Annual Meeting of the Tennessee State Medical Association, April 9th, 10th, 11th, 1918, at Memphis ---------------- 6

More Tennessee Doctors Must Go-------- 42

EDITORIALS

The Memphis Meeting ---------------- 43

Dr. Richmond McKinney -------------- 44

State Board of Health -------------- 44

Page

A. M. A. at Chicago ----------------- 46

In State Hospitals ------------------ 46

An Imperative Appeal For Medical Officers ---------------------------- 46

Appointed Member of Board of Examiners 46

Licenses Revoked ------------------- 46

Toxicity of Arsphenamine ------------- 47

Dr. Frank B. Reagor ----------------- 47

MISCELLANEOUS

Notes and Comment ----------------- 48

Book Reviews ----------------------- 48

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

THREE PRINTINGS IN FOUR MONTHS

Moorhead's Traumatic Surgery

ADOPTED BY THE U. S. NAVY

Industrial surgery is in most cases *minor surgery.* It is surgery that you, the practitioner, must do. Such accidents and injuries as dislocations, fractures, contusions, various kinds of wounds, felons, infected hangnails, boils, carbuncles, hematoma of the scalp from contusions, hemorrhage—accidents that frequently demand prompt and efficient treatment to save life, to assure restoration of function.

Here is a book on just this side of your practice—a work of nearly 800 pages, written for the needs of the general practitioner, the surgeon, the mining, railroad and industrial physician, those having to do with Compensation Law, accident insurance and claims, and legal medicine.

To those medical men engaged in or preparing for *military service* this work is proving of great value. For instance, it gives you at first hand the *open-air and sunlight treatment* of wounds and *Dakin's solution,* its formula and application—treatments that the great war has brought forward so emphatically. There are 522 illustrations.

By MAJOR JOHN J. MOORHEAD, M. D., Associate Professor of Surgery, New York Post-Graduate Medical School and Hospital. Octavo of 760 pages, with 522 line-drawings. Cloth, $7.00 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

DOCTOR:

Have you considered the many features

that make **Howe's DISTILLED WATER.** *so desirable*

for drinking purposes?

Prepared by double distillation at a temperature of 330° F under 90 pounds pressure.

Filtered through three separate charcoal filters, each 14 feet in length.

Aerated with sterilized washed air.

Bottled under the strictest precautions; in sterilized glass containers.

Corked with sterilized corks and sealed.

Howe's DISTILLED WATER.

offers you a drinking water absolutely free from all organic and mineral impurities--far preferable to any spring water--as the latter can never offer any assurance of absence of organic contamination.

LOANED FREE TO CONSUMERS

CALL M. 4744, AND ORDER A TRIAL CASE TODAY

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., MAY, 1918 NUMBER 1

THE DUTY OF THE PROFESSION IN THE PRESENT CRISIS.*

By E. T. NEWELL, M. D.
Chattanooga.

I trust that you will pardon my bringing to your attention today the above subject, for I realize that for the past two or three years and especially the last year, medical meetings throughout the country have been full to overflowing with military discussions, both medical and otherwise. But my friends of the Tennessee State Medical Association, I do not feel that I could possibly address you on a subject other than medical or surgical, unless I did so on our present duty as medical men in this GREAT WORLD WAR.

Our first duty at this time is to our country. All other duties of the past, those of civil life, should be made subservient to this work. We should think of what and how we can best serve our Government and the governments of the Allied Nations. By so doing, we will not only be serving them now, but for all time to come. This, as our President has so often said, is not a war of greed or aggrandizement, but a war for humanity, present and future. Who among you would not willingly sacrifice everything, even life, for the welfare, happiness, life and very soul of his family and his fellow man?

I do not, for one moment, mean to infer that all of us should go to the front or join today the Medical Reserve Corps, for it is just as necessary for some of us to stay at home and care for those who provide the necessary supplies for our Army and Navy, but you must join the fighting forces, either at home or abroad, if you have not already done so.

Those of you who, unfortunately, have been compelled to stay on this side, by reason of physical disability or otherwise, have plenty of duties to perform, and can do as much as some of the more fortunate ones who are in the service, provided you go about it in the proper way.

What Can Be Done at Home.

Foremost, I would say, is our sacred duty on Local Exemption and Medical Advisory Boards. Every county has its local board where drafted men present themselves for examinations, physical, mental and otherwise. Then, every city and every district has its medical advisory board for the examination of doubtful and contest cases sent up from the local boards, and for transfer throughout the state and adjoining states. The thorough, conscientious, painstaking examination of each case is one of the greatest responsibilities ever put upon our profession. These young men in the prime of life, pursuing their different and various occupations with their brain, their energy, their capital, should and must have comprehensive examinations. You owe it to them, to your country, to yourselves, and to the great profession that you represent to see that those who are physically and mentally fit be selected, and those who are not be rejected.

There are many factors that present themselves in these examinations. Congress and the President have wisely given each board a good working unit, consisting of specialists in all the various lines of medicine, competent to pass upon the case. I refer to the advisory boards. But, even with such a well balanced board, certain facts and conditions, pathological and otherwise, often present themselves that make it difficult to decide whether the appli-

---

*Presidential address annual meeting Tennessee State Medical Association, Memphis, April, 1918.

100591 DEC 26 1919

cant shall be accepted or rejected. You are given the "Restricted Service" class for certain applicants. In such cases, it should be our duty to weigh all the evidence, as it were,, and we should, especially, consider whether the applicant would be of more service at home in business, or in the service. There is no greater injustice that you could do to your Government, as well as to the applicant, than to send a man to a training camp who is not fit. When in real doubt, I would suggest rejection as the safer procedure. What more appalling wrong could be done the Government or applicant than to send a young man with incipient tuberculosis to a training camp? The consequences of such a mistake are too apparent to you to discuss.

Health of Civilian Population.

Only barely second in importance to fitness of recruits comes the health of the civilian population of our state, and, especially, of those cities adjacent to our cantonments. If the city is not kept in a healthful condition, the cantonment will suffer, and vice versa. A thorough, perfect and harmonious co-operation between the city, county, state, United States Public Health Service and military authorities is an absolute necessity. There are so many points to consider regarding this co-operation that I shall only discuss briefly a few of the more salient ones in an endeavor to draw to your attention the responsibility that confronts us.

Sanitation.

Sanitation in its fullest sense should be our aim. Rigid state supervision of all dairies is a most desirable condition at this time. Hotels, restaurants, barber shops, all transportation lines, all places of amusement and all public places should be regularly inspected by city, county and state health authorities and made as sanitary as possible.

Compulsory vaccination against smallpox and typhoid fever inoculation in all schools, public service departments, transportation lines, and manufactories should be enforced. Those and many other sources of public health contamination should be made sanitary and looked after by the members of the profession. Until we stand squarely behind the enforcement of these sanitary laws (most of them are on our statutes), we will never have the public health that is necessary to win this war.

Birth and death reports and prompt reports of all communicable diseases as laid down by the Public Health Service, to the city, county, state and to the Government, is one of the most essential elements in the building up of proper sanitary and health boards.

The time has come for system in all lines of work. Ours is no exception. The physician who does not put system into his work, keep case records of all patients, no matter how simple, yet comprehensive, make out birth and death reports and report promptly all communicable diseases to health boards, is not doing his duty to himself, his state or his Government. Before leaving this subject, I cannot refrain from mentioning the greatest factor in producing non-efficiency in our armies in this country—venereal diseases. Lieutenant-Colonel William Lyster, in an article in the Journal of the American Medical Association, August, 1917, writing from London, recites better than I can just what prophylaxis will do for this scourge. He emphasizes what the medical profession can do. Summed up in a word, it is *education*. I commend this article to all of you to read if you have not already done so.

The United States Public Health Service has established in Chattanooga, on account of its being in the Fort Oglethorpe zone, a venereal clinic for all classes of both sexes. It is an adjunct of the city clinic, and is under the supervision of a capable genito-urinary and skin specialist and a competent corps of nurses. All infected and lewd women who are discovered are sent to a branch of the Florence Crittenden Home, there interned and made self-supporting. This is a commendable institution, doing splendid work, and all other cities, situated as this one in, would do well to investigate it. In the cities of the states that have free clinics, it should be the duty of the physicians to attend these clinics as punctiliously and with as much interest as they would their most select private cases. I refer not alone to the teaching staffs of our medical schools, but to the rank and file of our profession. The free clinic, while a great teacher, is primarily to rid our state of contagion and suffering, and is for economic purposes. Every sick person is a burden to his community, his state and his Government.

The great insurance companies have been the first in civil life to appreciate the value of the free clinic and the visiting nurse, and, if health is wealth to them, how much more must it be to our state and Government. We must, in addition, practice preventive medicine and teach prophylaxis, if we would make a citizenship of healthy, robust individuals. This is the ideal; and only through you, gentlemen, can it be accomplished. It is interesting to note that the United States Public Health Service, when organized, was only for the treatment of sick sailors. It finally expanded under the guidance of its Surgeons-General until it became the full grown, active and aggressive Public Health Service of today, extending into all branches of commercial and civil life. Together with Surgeon-General Gorgas (who made possible the Panama Canal), they have eradicated yellow fever, bubonic plague, curtailed poliomyelitis, pellagra, trachoma and have established uniform sanitary methods that, when co-operated with by county and state health boards, will yield brilliant results.

Medical Schools and Hospitals.

Major Horace D. Arnold, Medical Reserve Corps, Board of Medical Education, American Medical Association, at a conference in Washington last month, said: "Medical schools have in reality become Army training schools." Every medical student is actually in the military service, only he is in Class 5 of the draft, but only as such till he graduates, whereupon he is subject to call.

What, then, can the men teaching in the medical colleges, best do in this crisis? They should, above all others of the profession, follow the teachings of the medical training school. By so doing, and by following the developments in the Army and Navy in this country and abroad in all lines of medicine and surgery, and inculcating in their students the uniform teachings of the Medical Corps, prepare them to be medically fit immediately upon their graduation and internship for active and efficient service. This war has brought forth many new methods of treatment, both in internal medicine and surgery. The latter has undergone radical and ingenious changes, especially in the handling and treatment of war wounds. A visit to the Army Museum and to the Rockefeller Institute will reveal to you many practical and wonderful changes.

Should the war continue, the demand for doctors is going to be so great that the teaching staffs of the medical schools will suffer greatly by the call to the colors. To meet this demand, we should urge all qualified young women to enter medical schools, especially with the view of becoming qualified as laboratory technicians, radiographers, anesthetists, surgical assistants, etc., if not for the practice of medicine. They could thus relieve medical men serving in these capacities, not only in medical schools, but in hospitals. Women here, as elsewhere in this great war will have to take the place of men. They are at the present time filling many of the aforesaid positions most admirably.

The Red Cross and the United States Public Health Service are also drawing freely on the nursing profession. All young women who are qualified should be urged to enter training schools in hospitals, in order that our boys at the front can be cared for as only women nurses can care for them.

National Board of Medical Examiners.

The National Board of Medical Examiners has its present domicile at Camp Greenleaf. It is the purpose of this most excellent board, composed of such men as Surgeon-General Braisted, Dr. J. S. Rodman, Col. Lewis A. LaGarde, Major Isidore Dyer, Lieut.-Col. Victor Vaughn and others, to hold examinations quarterly for those who wish to have a *national license* in the practice of medicine and surgery. The applicant must have a license from a Class "A" school or be in the Medical Reserve Corps, or in the Navy. He must also have served after his graduation an internship of one year in a reputable hospital. When he has passed a satisfactory examination, he can practice medicine in any state in the Union and is eligible to enter the Army or Navy with only a physical examination. He is also eligible to enter the Mayo Foundation for post-graduate work or research work, and arrangements are now in process of completion for entry into the Rockefeller Institute. This board is the outcome of the untiring efforts of the late Dr. Rodman of Philadelphia, ex-President of the American Medical Association.

Bills Before Congress.

There are two bills pending before Congress that I feel it is our duty to support. I trust that that it is our duty to support. I trust that some of you will present these bills to the House of Delegates and to the association at this meeting. I refer to the Owen Bill for equal rank of Medical Reserve Officers with those of the Regular Army, and the creation of a Pharmaceutical Officers' Reserve Corps in the Army. There is no reason why the Medical Reserve Corps, so important to the life and efficiency of the Army, should not have equal rank with the line officers, and there are many reasons why they should. Prominent among said reasons is that if the Medical Reserve Corps is not officered higher than major (the present highest rank), they cannot have accomplished needed medical measures as quickly and as effectively as though they were nearer in rank to the commanding officer. Other reasons, such as pay commensurate with the sacrifices they are making and the relative ability that they possess, etc., are too well known to you for discussion.

In regard to the Pharmaceutical Officers' Reserve Corps, it is necessary to have this branch of the service specialized as it is to have general surgeons, head surgeons, internists, sanitariums, etc., in the regular Medical Corps. Should this Corps be mustered into the service, competent medical men that are now dispensing medicine will be permitted to do medical work and fewer medical men would be needed in the service.

I trust that you will use your influence with your Congressmen and Senators to assist in the passage of these most worthy bills now pending before our Congress.

State Committee, National Board of Defense.

This committee, presided over by Maj. W. D. Haggard, and whose secretary is Capt. H. H. Shoulders, with some twelve other members throughout the state, has labored zealously since the declaration of war last April. Several meetings have been held in Nashville, and the duty of the profession during the war discussed. Considerable literature has been sent out to all the doctors in the state by this board, and an itinerary throughout the state has been carried out by Captain Shoulders. You are all more or less familiar with the work accomplished by the personnel of this committee. Their work is not complete, nor will it be so till the war is over. The principal duty of this committee is in getting the proper men of the medical profession of Tennessee to enlist in the Medical Reserve Corps. So far, we have commissioned in this state 479 men. This is 21 per cent of Group "A" doctors and 15.8 per cent of all doctors in the state. Memphis and Nashville have responded nobly in sending well qualified men into the Medical Reserve Corps, and have made a very enviable record.

While Tennessee's showing is a creditable one, it is not what it should be, and I trust that by the time the next monthly report comes out, we will have not only supplied our quota, but oversupplied it, putting our state in the highest percentage column with Pennsylvania, New York and others of the leaders.

The Tennessee State Committee, Medical Section, Council of National Defense, has appointed county and district committees throughout this state to suggest from the members of the profession practicing in the different counties, the names of the men most available for the Medical Reserve Corps, and a most important duty has been placed in the hands of the medical committees from these counties.

The questions naturally arise: Who should be left to care for the community? Who to care for the institutions of the city and county; for the city and county health boards? And of the remaining men, how are we to decide who should be left and who should be recommended for the service? These are most perplexing questions, but, like all other similar questions, must be met squarely and fairly, without favor or personal feeling. This is the time and opportunity for all factional and petty feeling in our medical life to end. What better example could be emulated than that of the Republican Executive Committee of this state, that recently met in Nashville and refused to put a ticket in the field, because they felt that this was no time for political strife, but one for a united effort on the part of the people?

Chief Justice Hughes, in a recent speech in New York City, sounded the keynote when he said: "This is not the occasion for democratic or republican speech-making, but one for a united national rally." If any of you are not fully imbued with the idea of your responsibility and duty in this crisis, I wish that you could go over to Fort Oglethorpe and visit Camp Greenleaf, said to be the largest medical training camp in the world. There you would see a vast medical city of 20,000 medical officers and enlisted men. By the middle of May, they expect to have 30,000 medical men in the service at this camp. There is in process of erection a general hospital of 20,000-bed capacity, which mill make a total of 50,000 in the medical complement.

This is stupendous, but as Colonel Page, the organizer and builder of this colossal institution, recently said, "There is no limit to it, simply the sky line." A permanent National School of Medicine at Greenleaf is under consideration where men will be educated and trained in war and in time of peace for both Army and Navy. To visit this camp, to see as far as the eye can reach the numerous buildings, administration, auditorium, museum, first aid station, evacuation hospital, base hospital, ambulance corps, medical units, etc., together with the Y. M. C. A. and places of amusement; to know that it is all medical, you will not fail to be impressed with the magnitude and importance of the medical side of this war, to realize what our Government is preparing for, and to consider what each of us should and must do in this great crisis.

I do not feel that a paper of this kind would be complete without mentioning the work of a medical man who, with the exception of Surgeon-General Gorgas, has done more for the Medical Reserve Corps and the medical men of the United States than any other man in this country. I refer to Colonel Henry Page, organizer and builder of Camp Greenleaf. The sincerity, earnestness, faithful, devoted and untiring work of this apostle of our profession and the Army should go down in history by the side of Pasteur, Lister, Reed, Carroll, Gorgas and others. However, let us not forget those of our profession from our beloved state who are in the service here or at the front, and let us not only help them by mere chattels that we are obligated to send them for service rendered their patients during their absence, but let us care for and help their families at home, who have given them so freely for their country, and who anxiously wait during long days and dreary nights for news of them "Somewhere on the French Front."

There is not one among you who cannot find some service whereby he can in a greater or less degree help this just cause, and my confreres of the Tennessee State Medical Association, I trust that you will willingly make such sacrifices as are necessary to this end, and let it ever be said in time to come that the great medical profession of the grand old "Volunteer State" did not do their "bit," but their all, in this, the greatest conflict of right against wrong, militarism against liberty, autocracy against democracy, the world has ever known, and help avenge the wrongs done downtrodden Belgium, bleeding France, helpless Russia, Servia and Roumania, noble Italy, honorable England and peace-loving America.

In closing, I wish to quote a poetic tribute by Dr. Edwin P. Davis, Medical Advisor to President Wilson, given at Camp Greenleaf recently, when dedicating the Auditorium in the presence of Surgeon-General Gorgas and his staff:

My country, oh, my country,
The battle hour has come
For justice and for liberty,
For human rights and homes.

The free wind blows the trumpet,
Our flag the starry skies;
Our drum roll is the thunder,
Our lightning sword on high,

Our ships are on the ocean,
A mighty folk in motion,
The rushing flood of war.

To go, to stay, to fight, to watch,
To keep our hearth fires bright,
Our country asks from each his part,
His duty and his right.

My country, oh, my country,
The battle hour has come.
How shall I stand before God's hand,
Who asks, "What have you done?"

PROCEEDINGS
OF THE
EIGHTY-FIFTH ANNUAL MEETING of the
TENNESSEE STATE MEDICAL ASSOCIATION
APRIL 9th, 10th and 11th, 1918
AT MEMPHIS

APRIL 9—FIRST DAY—Morning Session. The Association met in the Assembly Hall of the Gayoso Hotel, and was called to order at 10:30 a. m., by Dr. Willis C. Campbell, Memphis, chairman of the Committee of Arrangements.

Prayer was offered by Rev. Troy Bailey, after which Dr. B. F. Turner, Memphis, was introduced and delivered the following address of welcome on behalf of the Memphis and Shelby County Medical Society:

Address of Welcome by Dr. Turner.

Mr. President and Members of the Tennessee State Medical Association—We, the local members of the medical profession, are glad to welcome again those faces made familiar by past associations. The exigencies of the present, of course, impress us all with a certain degree of somberness in our city. You, who are our guests, will miss many familiar faces, and those who are your hosts will miss many whom we are always glad to welcome and whose absence from our councils will be felt. In the concentration camps in our own country and abroad are those who have entered the ranks of the service, and whose work we will follow with sympathy. Do not forget that we expect you to make your stay while in Memphis as prolonged as you can make it. We want to do what we can to make your visit as pleasant and interesting as possible.

A formal address on this occasion would hardly be in place. I can present to you nothing that is of unique interest. I can only extend to you the hearty welcome that you desire and deserve, and assure you that while you are amongst us we will try to do all we can to make your stay pleasant and agreeable. (Applause.)

In the absence of Dr. J. W. McQuillan of Chattanooga, who was to have responded to the address of welcome, Dr. Campbell called on Dr. George H. Price of Nashville to perform this pleasant duty.

Response by Dr. Price.

Dr. Campbell and Members of the Tennessee Medical Association—I am satisfied that the members of the Tennessee State Medical Association gathered together at this time are glad indeed to be in the City of Memphis. According to history, the meetings of this Association in the city of Memphis have always been most pleasant occasions, and when we come to accept the hospitality of these generous gentlemen who so frequently invite us here, we always come with the understanding and knowledge beforehand that that entertainment, that welcome which we have experienced in the past, will not be less at this time.

I am sure that every man feels, when he comes to the city of Memphis a reasonable and pardonable pride in this city and the profession as it is represented in Memphis has always stood ready to extend the heartiest and most wholesome greetings to the members of the profession whenever they come to Memphis.

Gentlemen, I am sure that those who are present now, and those who will be present later, will enjoy to the fullest this hearty welcome extended to the Tennessee State Medical Association through the Memphis and Shelby County Medical Society. (Applause.)

In view of the fact that some of the trains were late and President Newell had not yet arrived, Dr. West moved that the Association adjourn until 2 p. m.

Motion seconded by Dr. Turner and carried.

Acordingly, the Asociation thereupon adjourned until 2 p. m.

FIRST DAY—Afternoon Session.

The Association reassembled at 2 p. m., and in the absence of President Newell, on account of illness, the meeting was called to order by Vice-President Dr. W. O. Sullivan of Newbern.

The sympathy of the Association was extended to the President through a committee appointed for that purpose.

The reading of papers being the next order, Dr. G. C. Savage of Nashville read a paper entitled, "A New Treatment of Epithelioma," which was discussed by Drs. Litterer, Caldwell, Jelks, Fontaine, Price, and Abernathy, after which the discussion was closed by the essayist.

Dr. E. H. Baird and J. P. Baird, Dyersburg, contributed a joint paper entitled "Some Unsettled Points in the Etiology of Appendicitis," which was discussed by Drs. Crook, Jelks, Johnson, Cass, Krauss, Caldwell, Haskell, and discussion closed by Dr. E. H. Baird.

Dr. Duncan Eve, Jr., Nashville, read a paper entitled "A Discussion of Seven Thousand Industrial Injuries."

This paper was discussed by Drs. Burns, Steele, Johnson, Crook, Price, Anderson, and in closing, the essayist.

Dr. R. L. Sanders, Memphis, followed with a paper entitled "Surgical Management of Chronic Gastric and Duodenal Ulcers," which was discussed by Drs. Carter, Savage, Johnson, Caldwell, and discussion closed by the essayist.

Dr. Olin West, Nashville: We have a limited attendance at this meeting, but instead of being disappointed over it, I am really proud of the fact that we have a limited attendance, because it means that we have a very large number of medical men in Tennessee who are engaged in their line of duty as surgeons with the Army, both in this country and on the battlefields in Europe. (Applause.) In addition to this, we have a great many men who have served just as faithfully and effectively who could not go into the medical service of the Army. Many of them are here in this room today only temporarily; they must go back tomorrow to undertake the pressing duties that have devolved upon them in connection with this war.

I know that everybody in this Association takes great delight in honoring the uniform, and I wish it were so that we could give adequate expression of our appreciation of the sacrifices that many of our very best men in our section have made in this great world crisis. But we can make one demonstration at this time, for it so happens that one of the men of Memphis, who has given himself to the medical service of the Army has received within a few hours orders which are calling him away to take charge of a unit that is to serve in Europe, and I move, Mr. Chairman, that we honor the man in uniform by extending the privileges of the floor to one of them who is one of us, and that we hear for a few minutes from Dr. Frank D. Smythe of Memphis. (Applause.)

Dr. Smythe: Mr. Chairman and Members of The Tennessee State Medical Association: It does my heart good to see this manifestation of your patriotism and love and admiration for the uniform which I am wearing. I appreciate fully that it is the uniform, and for that I am additionally proud.

I am at present under orders to go to Europe, but through the magnanimity and charity of the Surgeon-General, I have been accorded a few days time in which to get my house in order before mobilizing the personnel for a base hospital for which I am chief surgeon for service overseas.

A few evenings ago, after the hour of midnight, in thinking about our duties and responsibilities to our Government in this crisis, I penciled a few thoughts, and the next morning dictated them to my stenographer. But I feel that Memphis has not only been honored, but has honored herself because of the large percentage of her doctors who have volunteered for service overseas, and if I can upon the eve of my departure say one thing that would stimulate you to do even greater things than you have already done, I feel the pleasure would be a great one indeed, hence the few brief thoughts which I will read for your consideration. (Reading from manuscript.)

At the conclusion of Dr. Smythe's remarks, on motion, the Association adjourned until 8:30 p. m.

FIRST DAY—EVENING SESSION.

The Association reassembled at 8:30 p. m., at the First Methodist Episcopal Church and was called to order by Dr. John L. Jelks, President of the Memphis and Shelby County Medical Society.

Lieut.-Col. Victor C. Vaughan, M. R. C., Ann Arbor, Mich., was introduced and delivered an address.

Major W. J. Bell, M. R. C., instructor in surgery at Camp Greenleaf, followed with a patriotic address in which he recited his experiences on the battlefields of Europe.

On motion, the Association adjourned until 9 a. m. Wednesday.

WEDNESDAY, APRIL 10—SECOND DAY.

MORNING SESSION.

The Association met at 9 a. m. and was called to order by Vice-President T. G. Pollard of Nashville. Dr. J. B. Haskins, Chattanooga, read a paper entitled "Surgery of the Thyroid," which was discussed by Drs. Haggard and Crockett, after which the discussion was closed by the essayist.

At this juncture, Dr. West, in introducing Lieut.-Col. Vaughan, said: This morning I picked up a newspaper and found two items on one page, the first of which stated that King Albert, the beloved king of the Belgians, is 48 years old today, and the other item stated that Dr. William H. Welch, a name known to you all, is 68 years old today; and I thought that if King Albert had his wonderful country restored as it was before this horrible war, and the Belgians were the happiest people on earth, and King Albert had everything he desired as a king, I would rather be a William H. Welch, 68 years old, than be King Albert or any other darn king, 48 years old. (Applause.)

We have here today a man whom we honor, and I do not mean that in the usual hollow acceptation of the phrase. I do not know how old he is, but I do know that for forty years he has been a teacher in one of our largest medical institutions; that he made for himself a name that is known the world around, as a scientist, a scholar, a writer, a teacher, a soldier, a gentleman, and a man, and I would rather be he than any two darn kings. (Applause.) I want the Association to hear at this time, because I know he has other engagements. Lieut-Col. Victor C. Vaughan. (Applause.)

Lieut.-Col. Vaughan then addressed the Association. His remarks will appear in a subsequent issue of the Journal.

On motion of Dr. West, which was duly seconded and carried, an address by Major Bell was made a special order for 11:40 a. m.

On motion of Dr. West, the address of Dr. William Sharpe, New York City, was set for special order to follow that of Major F. F. Simpson at 3 p. m.

Dr. C. A. Robertson, Ridgetop, read a paper entitled "Laryngeal Tuberculosis; Its Early Recognition and Curative Treatment."

After an address by Major Bell on "War Surgery," the Association adjourned until 2 p. m.

SECOND DAY—AFTERNOON SESSION.

The Association reassembled at 2 p. m. and was called to order by Vice-President Pollard.

Dr. W. D. Haggard and Dr. W. O. Floyd, Nashville, contributed a joint paper on "Complete Intestinal Obstruction From Carcinoma of the Sigmoid and Rectum."

This paper was discussed by Drs. Crisler and Jelks, and discussion closed by the authors of the paper.

Dr. W. D. Haggard was asked to introduce the next speaker, Major Frank F. Simpson of Pittsburgh, and in doing so said: We are accustomed to think that when Belgium was ravaged, her women and children alone suffered, but it remained for one of the members of the medical profession in this country, who is our guest today, to take care of that unfortunate group of the medical profession in Belgium who had suffered, by asking generous donations for them from the members of our profession.

A year before war was declared there were in this country committees of American physicians for preparedness, and in every state and every county there existed a committee for arrangements and selection and choice of men who could be called on by the government at any time for service. The man who did that, who has up to the present time done such splendid work in the Medical Section of the Council of National Defense, who has given up a magnificent surgical practice in Pittsburgh, and has devoted his great efforts to the splendid cause of the preparedness of the medical profession to fight and help this crisis of all world wars, is with us today, and I take great pleasure in introducing to you this afternoon for a special address, Major Frank F. Simpson, formerly of Pittsburgh, now of the continent of America. (Applause.)

Major Simpson then addressed the Association.

Dr. William Sharpe, New York City, read a paper entitled "Recent Advances in Neurological Surgery, Especially in the Diagnosis and Treatment of Brain Injuries," which was illustrated by slides and moving pictures.

On motion of Dr. West, which was duly seconded and carried, a rising vote of thanks was extended to Dr. Sharpe for his splendid scientific presentation of this subject.

Dr. O. Dulaney of Dyersburg presented a report which was adopted by the House of Delegates, relative to the Owen-Dyer Bill. The report is as follows:

Whereas, Medical preparedness constitutes one of the largest phases of the program of national preparedness on which the nation has set to work; and

Whereas, The medical profession is called upon to give and is giving more liberally of its resources for Army service than any other single group of the nation's citizenship, and doing so without complaint; the medical profession having to date furnished a larger percentage of its group between 22 and 55 years of age than the registrants under the selective service law between the age of 21 and 31; and

Whereas, Four hundred and seventy-nine of Tennessee's 3,028 doctors had up to March 31 offered and been accepted for appointment in the Medical Reserve Corps for service whenever and wherever needed; and

Whereas, It is recognized as being to the best interests of the Army that medical men have rank commensurate with the importance of their duties and responsibilities as officers; and

Whereas, The Owen Bill (Senate Bill No. 3748) and Dyer Bill (H. R. No. 9563) have been carefully considered and endorsed by those most competent to pass judgment on such questions, among whom are the Surgeon-General of the Army, and the President of the United States; and

Whereas, This bill has been published widely over this country and has been endorsed by organized medicine; therefore be it

Resolved, That the Tennessee State Medical Association, through its House of Delegates, endorses the Owen and Dyer Bills on this subject. Be it further

Resolved, That the Legislative Committee of this Association be instructed to take the necessary step to place the wishes of the physicians of this state before each member of Congress from Tennessee in reference to this bill, and to keep this Association advised, through the columns of the State Journal, of the status of this much-needed measure.

(Signed.)

Octavus Dulaney, *Chairman;*
Jere L. Crook.

Dr. William Britt Burns moved the adoption of the report, which motion was duly seconded and carried.

Dr. E. M. Sanders, Nashville, read a paper entitled "Osteomyelitis," which was discussed by Drs. Mann, Caldwell, Miller, and in closing by the essayist.

The Secretary called attention to a banquet to be given at 8 p. m.

On motion, the Association adjourned until 9 a. m. Thursday.

THURSDAY, APRIL 11—THIRD DAY.

Morning Session.

The Association met at 10 a. m. and was called to order by Vice-President Sullivan.

Dr. George R. Livermore, Memphis, read a paper entitled "The Proper Interpretation of Bladder Symptoms," which was discussed by Dr. Krauss, Crockett and Baird, after which the discussion was closed by the essayist.

The Secretary announced the officers elected by the House of Delegates. (For details, see minutes of the House of Delegates.)

Vice-President Sullivan appointed Drs. Yarbrough and Livermore as a committee to escort the newly-elected President, Dr. Richmond McKinney, to the platform.

Vice-President Sullivan, in presenting Dr. McKinney, said: Here is a man who needs no introduction to you. You all know him, and I take great pleasure in turning this meeting over to him—Dr. McKinney. (Applause.)

Dr. McKinney, in accepting the presidency, said: I am proud of the fact that I have known so many members of this Association for a great many years. I have grown up with it. I can remember a few years back when comparatively few of us from this section went to the meetings of the Association, but I notice with a great deal of pride that this interest has grown.

Memphis at one time took very little or no interest in the Association, but its interest has been gradually developing until we now send good representative delegations from West Tennessee, and the doctors in Memphis and West Tennessee have attended in greater numbers. We are taking more and more interest in the State Association and are sending a greater number of men to the meetings.

It is needless to say that I appreciate this great honor you have conferred upon me. I think that any member of the profession of the state who receives the highest honor his colleagues can confer upon him, namely, the presidency of his State Association, should be proud. I would be lacking in feeling if I did not say that this is the proudest moment of my life.

Our attendance at this meeting is smaller than usual, because we are interested in this great struggle, and so many of our men have voluntarily offered their services and have gone to war. I hope by next year this terrible debacle, this tide of blood and bone and iron and terrible suffering will be over, and that we will be united, and that our boys will come marching home after a victorious career on the other side and help swell the attendance in Nashville. Then we will be able to welcome those men very warmly and heartily who have voluntarily given their services to their country, who have gone abroad and made sacrifices.

We cannot predict the outcome of the present struggle, but we are hoping it will be over by next year, and we shall have a large attendance to celebrate that occasion.

I do not intend to make a long talk this morning, and I wish to close by simply saying that I appreciate this great honor immeasurably, and if I can further the interests of the Association in any way I shall certainly do so.

I have taken great interest in the advance of medicine and surgery, and have contributed my mite in every way I could, and I will exert every effort I can to further the interests of this Association during my incumbency of this office, and at all times in the future. I thank you. (Applause.)

Dr. William Krauss, Memphis, read a paper entitled "What Will Be the Status of the Medical Profession in the Prospective Socialization of the Practice of Medicine?"

At the conclusion of Dr. Krauss' paper, Secretary West said: As many of you know, I have, in season and out of season, urged upon the members of the Asociation the subject of health insurance, and that all branches of social insurance should be carefully studied by the members of the profession of this state. A great many states have already developed some system of health insurance, and it is only a question of time when we are going to be confronted with the same proposition in our own state. I consider that one of the best things I have ever done since my official connection with this Association was to suggest Dr. William Krauss as a member of the Committee on Social Insurance. (Applause.) Dr. Krauss never does anything without doing it well. Even if he does a thing wrong, he does it well.

I would not venture an opinion as to the system he proposes here, but I do want to insist, and I am going to ask, that he furnish these charts and photographs so that they can be reproduced in the Journal, and I want to insist further that every man in this house make a careful study of the general subject of insurance as indicated by the essayist. Unless the members of the medical profession get "on the job," we will be saddled with burdens that we never dreamed of when the thing is finally developed in Tennessee.

I want to thank Dr. Krauss for his exceedingly interesting presentation of this subject in connection with this investigation, which comes somewhat in the nature of a report of the Committee on Social Insurance of our State Association.

Dr. S. S. Crockett moved that Dr. Krauss be continued as chairman of the Committee on Social Insurance for the coming year.

Motion seconded and unanimously carried.

Vice-President Sullivan suggested in line with the remarks of Dr. West that the paper or report of Dr. Krauss be reprinted from the Journal, and that a copy of same be furnished to every doctor in Tennessee.

Dr. West said that this would be done without a formal motion.

The paper of Dr. Krauss was then discussed by Dr. Price.

Dr. L. L. Sheddan, Knoxville, read a paper entitled "Hysterotomy," which was discussed by Drs. Brooks, Thompson, Anderson, Baird and Pollard, after which the discussion was closed by the essayist.

Dr. J. F. Gallagher, Nashville, read a paper entitled "Syphilitic Induration of the Vulva," which was illustrated by slides.

Dr. William S. Anderson, Memphis, read a paper on "The Surgical Treatment of Varicose Veins of the Lower Extremities," which was discussed by Dr. Baird, and in closing by the essayist.

Secretary West read a telegram from the Southern Medical Association, extending greetings with best wishes for a successful and profitable meeting.

Dr. W. Scott Farmer, Nashville, read a paper on "Treatment of the Insane in Our State Hospital."

Secretary West moved that a vote of thanks be extended to the Memphis and Shelby County Medical Society for their kindness in arranging for this meeting, and for the entertainment which they have so graciously offered.

Motion seconded by Dr. Sheddan and carried unanimously.

As there was no further business to come before the meeting, on motion, which was duly seconded and carried, the Association then adjourned to meet in Nashville the second Tuesday in April, 1919.

Olin West, M. D., *Secretary.*

PROCEEDINGS OF THE HOUSE OF DELEGATES.

The House of Delegates of the Tennessee State Medical Association convened at two o'clock, p. m., Tuesday, April 9, 1918, at the Gayoso Hotel, Memphis, Tenn., when and where the following proceedings were had:

Dr. Savage: The House of Delegates will come to order. I will have to announce to you that Dr. Newell has had to be operated upon since his arrival in the city, and cannot be with us today, and there is not a single one of the Vice-Presidents on the ground, and being the oldest Ex-President, I have been asked by the Secretary to call this meeting to order. Are you ready for business? We will first see if we have a quorum present. I suppose we have.

The Secretary suggests that we simply come to order and transact, as the only item of business at this meeting, the creation of a nominating committee. Is there anything else that you desire to bring before this meeting, Mr. Secretary?

The Secretary: No, sir, Mr. Chairman; I thought in view of the fact that things are so disarranged and there are so few men here, that it would be a very wise thing to appoint a nominating committee, and then adjourn until tomorrow morning at eight o'clock.

At this point, Dr. Jere L. Crook took the chair.

The Chairman: Well, gentlemen, that seems to be the consensus of opinion. Is there a motion to that effect?

The Secretary: I make that motion.

The motion was seconded, and unanimously carried.

The Chairman: The nominating committee then will be appointed now, and we will then adjourn. I declare a recess of five minutes for the purpose of allowing the representatives from East, West and Middle Tennessee to suggest a nominating committee, that the Chair may confirm them.

A recess of five minutes was acordingly taken, after which the House was called to order.

The Chairman: I now call on Dr. Britt Burns of the West Tennessee committee, for a report of the findings of the committee as to nominations for West Tennessee.

Dr. Britt Burns: The Committee from West Tennessee nominated Dr. J. R. Carroll from Henderson County, Dr. O. Dulaney from Dyer County, and Dr. J. W. Sanford from Lauderdale County for the nominating committee .

The Chairman: What are the nominations from Middle Tennessee?

Middle Tennessee Delegate: Dr. J. T. Moore of Algood, Dr. Robert Caldwell of Nashville, and Dr. L. L. Maloney of McMinnville.

The Chairman: Now, East Tennessee?

Dr. W. T. Nash: Dr. N. W. Hartsook of Johnson City, Dr. John B. Haskins of Chattanooga, and W. T. Nash of Knoxville.

The Chairman: The Chair confirms the nominations of these men, and hereby appoints them the nominating committee for this session of the Association.

The Secretary: I am sorry to announce to the House of Delegates that Dr. Newell, the President of the Association, is confined to his bed as the result of a middle ear abscess, and has been operated upon since he has been in the city. We hope to have him with us at tomorrow mornings' session.

Mr. Chairman, in view of the fact that we had to adjourn this morning, due to the fact that things are considerably disarranged, and there is not a great deal of business to come before the House of Delegates—unless there is something that somebody here wants to present—I move that we adjourn until eight o'clock tomorrow morning.

The motion was seconded and unanimously carried, and the meeting was accordingly adjourned until eight o'clock, a. m., Wednesday, April 10, 1918.

MORNING SESSION, WEDNESDAY, APRIL 10, 1918.

The House of Delegates met pursuant to adjournment, at eight o'clock, a. m., Wednesday, April 10, 1918, Vice-President W. O. Sullivan presiding, when the following proceedings were had:

The Chairman: The House will please come to order. The first thing in the order of business is the roll call of delegates.

The Secretary: Mr. Chairman, I am sorry to say that, except for a few counties, I have not been notified as to who the delegates are. For that reason, I would like to call the roll by counties and have the delegates to answer for the counties.

The Secretary accordingly called the roll by calling the names of the counties, the delegates present responding by stating their names. The roll call thus made showed the following delegates present:

Counties.	Delegates.
Carroll	Dr. J. R. Carroll
Davidson	Dr. Robert Caldwell and Dr. W. S. Farmer
Dickson	Dr. H. A. Larkins
Fayette	Dr. J. A. Albright
Hamilton	Drs. J. C. Brooks and J. B. Haskins
Henderson	Dr. C. E. Bolen
Jackson	Dr. J. D. Quarls
Lauderdale	Dr. J. B. Sanford
Madison	Drs. Jere L. Crook and F. B. Hamilton
Maury	Dr. M. A. Beasley
Obion	Dr. J. D. Carleton
Putnam	Dr. J. T. Moore
Shelby	Drs. A. B. DeLoach, W. B. Burns and W. T. Black
Warren	Dr. R. L. Maloney
Washington	Dr. C. J. Broyles
White	Dr. R. E. L. Smith

The Secretary: Mr. Chairman, there are a number of other men here, but they have all just gone in to breakfast.

Dr. W. B. Burns: Mr. Secretary, my understanding was that we had in our local society over two hundred at our last meeting.

The Secretary: Less than two hundred reported, Doctor.

Dr. W. B. Burns: Dr. Warr has not reported then, recently.

The Secretary: As I recall, your society has now about 165 members reported.

Dr. W. B. Burns: I thought we were entitled to five delegates.

The Secretary: No; four.

The Chairman: We will now have the reading of the minutes of the last meeting.

The Secretary: Mr. Chairman, the minutes of the last meeting were printed in the Journal immediately after the annual meeting last year, and the custom has been to dispense with the reading of the minutes.

It was moved and seconded that the reading of the minutes be dispensed with, and the motion was unanimously carried.

The Chairman: The next order of business is the reading of the report of the Secretary.

The Secretary: Mr. Chairman, the Secretary's report is in typewritten form, but as it has been printed in the Journal for April, which was gotten out ahead of the meeting, I will read it from that record.

The report of the Secretary was accordingly read.

The Chairman: What disposition will you make of this report of the Secretary to the House of Delegates?

Dr. J. W. Sanford: I move that it be adopted.

Dr. O. Dulaney: I second the motion.

The motion was put to a vote and unanimously carried.

The Chairman: Now we will hear the report of the Treasurer:

The Secretary: Mr. Chairman, Dr. Gallagher, the Treasurer of the Association, has his report on the table of the Secretary, duly signed, and while he is not in the room, I suppose it will be proper for me to submit it, since he has given it to me for that purpose.

The Secretary acordingly read the report of the Treasurer, which is as follows:

Report of
J. F. Gallagher, Treasurer
Tennessee State Medical Aassociation
1917-1918.

ADVERTISING CASH—1917.

April.

6	N. A. Guyer (exhibit space)	$ 10.00
6	City View Sanitarium	7.50
6	Hotel Tulane (advertising space)	8.00
6	D. Loveman, Berger & Teitlebaum (advertising space)	4.00
10	Ambrose Printing Company	3.33
11	Nashville Surgical Supply Co.	5.42
11	Dr. Allen H. Bunce	5.00
11	Southern Ice Co.	10.00
11	W. B. Saunders (exhibit space)	10.00
11	Nashville Pure Milk Co.	2.92
12	McQuiddy Printing Co.	5.42
13	Lynnhurst Sanitarium	15.00
14	Co-operative Med. Adv. Bureau	90.94
16	Oxford Retreat	2.50
18	F. A. Hardy & Co.	5.00
19	Parke, Davis & Co.	7.13
21	Armour & Co.	7.00
24	Dr. Ed Culp (subscription)	2.00
25	Cincinnati Sanitarium	5.00
26	H. K. Mulford Co.	9.50
26	Theo Tafel Co.	10.00
		$225.66

May.

3	City View Sanitarium	$ 7.50
3	Louisville Neuropathic Sanitarium	4.00
4	Katherine L. Storm	2.50
5	Parke, Davis & Co.	7.13
10	H. K. Mulford Co.	9.50
10	Southern Ice Co.	10.00
10	Ambrose Printing Co.	3.33
10	McQuiddy Printing Co.	5.42
10	Armour & Co.	7.00
11	Nashville Surgical Supply Co. (exhibit space included)	20.42
14	Co-operative Med. Adv. Bureau	93.30
11	Nashville Pure Milk Co.	2.92
14	Drs. Petty & Wallace	7.50
16	Dr. Allen H. Bunce	5.00
16	F. A. Hardy & Co.	5.00
18	Oxford Retreat	2.50
18	Fairchild Bros. & Foster	7.50
28	Cincinnati Sanitarium	5.00
28	Dr. M. Smith, Robey, Tex., Journal	.25
		$205.77

June.

1	City View Sanitarium	7.50
4	Fairchild Bros. & Foster	7.50
5	Louisville Neuropathic Sanitarium	4.00
8	Dr. Katherine L. Storm	2.50
9	Southern Ice Co.	10.00
11	Parke, Davis & Co.	7.13
12	McQuiddy Printing Co.	5.42
12	Nashville Surgical Supply Co.	5.42
12	Dr. J. B. Grothaus (advertisement)	1.00
13	Nashville Pure Milk Co.	2.92
13	Ambrose Printing Co.	3.33
14	Co-operative Med. Adv. Bureau	89.00
14	Armour & Co.	7.00
15	Jensen, Herzer & Jeck	4.00
16	H. K. Mulford Co.	9.50
18	Dr. Allen H. Bunce	5.00
20	P. G. Tucker (exhibit space)	15.00
22	Oxford Retreat	2.50
25	Fairchild Bros. & Foster	7.50
26	Cincinnati Sanitarium	5.00
		$201.22

July.

2	City View Sanitarium	$ 7.50
2	Robert Lyle	4.00
6	Theo Tafel Co.	15.00
7	Louisville Neuropathic Sanitarium	4.00
11	Nashville Surgical Supply Co.	5.42
11	Nashville Pure Milk Co.	2.92
12	Southern Ice Co.	10.00
12	Dr. W. M. Brown (advertising)	1.00
12	Ambrose Printing Co.	3.33
14	Dr. Hazel Barnes (subscription)	2.00
14	Armour & Co.	7.00
16	Fairchild Bros. & Foster	7.50
16	Dr. Katherine L. Storm	2.50
16	Co-operative Med. Adv. Bureau	89.94
16	Dr. W. P. Robinson (subscription)	2.00
16	Parke, Davis & Co.	7.13
18	Oxford Retreat	2.50
21	Allen H. Bunce	5.00
23	Lynnhurst Sanitarium	15.00
30	H. K. Mulford Co.	9.50
30	Cincinnati Sanitarium	5.00
		$208.24

August.

1	City View Sanitarium	$ 7.50
2	New Orleans Polyclinic	15.00
4	Petty & Wallace Sanitarium	7.50
4	Louisville Neuropathic Sanitarium	4.00
11	Ambrose Printing Co.	3.33
11	Nashville Surgical Supply Co.	5.42
13	Co-operative Med. Adv. Bureau	79.18
13	Nashville Pure Milk Co.	2.92
15	Dr. Allen H. Bunce	5.00
16	Parke, Davis & Co.	7.13
17	Southern Ice Co.	10.00
17	Armour & Co.	7.00
18	Oxford Retreat	2.50
23	Fairchild Bros. & Foster	7.50
25	Cincinnati Sanitarium	5.00
		$168.98

September.

1	Frank K. Wanner (1 yr. subscription)	$ 2.00
4	City View Sanitarium	7.50
11	Southern Ice Co.	10.00
11	Nashville Surgical Supply Co.	5.42
11	Nashville Pure Milk Co.	2.92
11	Dr. N. C. Ellis (3 months advertising)	5.00
12	Parke, Davis & Co.	7.13
13	Dr. Allen H. Bunce	5.00
13	Co-operative Med. Adv. Bureau	67.46
14	Dr. Herman Spitz (advertising)	10.00
15	Armour & Co.	7.00
17	Katherine L. Storm	7.50
19	Louisville Neuropathic Sanitarium	4.00
20	Ambrose Printing Co.	3.33
20	Theo Tafel Co.	10.00
20	Fairchild Bros. & Foster	7.50
24	Oxford Retreat	2.50
24	Watauga Sanitarium	61.32
24	H. K. Mulford Co.	19.00
26	Cincinnati Sanitarium	5.00
29	Dr. J. McNamara (6 mo. subscription to Journal)	1.00
		$250.58

October.

1	Model Laundry	$ 33.30
1	George S. Johnston Co.	54.15
6	Louisville Neuropathic Sanitarium	4.00
10	Nashville Pure Milk Co.	2.92
11	Nashville Surgical Supply Co.	5.42
11	Dr. Allen H. Bunce	5.00
12	Parke, Davis & Co.	7.13
12	Armour & Co.	7.00
12	Ambrose Printing Co.	3.33
13	Southern Ice Co.	10.00
15	Lynnhurst Sanitarium	15.00
15	Co-operative Med. Adv. Bureau	82.02
18	H. K. Mulford Co.	9.50
22	Oxford Retreat	2.50
24	Cincinnati Sanitarium	5.00
25	Fairchild Bros & Foster	7.50
		$253.77

November.

1	City View Sanitarium	$ 15.00
5	Theo Tafel Co.	10.00
6	Louisville Neuropathic Sanitarium	4.00
10	Ambrose Printing Co.	3.33
13	Nashville Surgical Supply Co.	5.42
16	Co-operative Med. Adv. Bureau	86.14
16	Armour & Co.	7.00
17	Oxford Retreat	2.50
26	Southern Ice Co.	10.00
26	Highland Sanitarium	20.00
26	Cincinnati Sanitarium	5.00
26	Jungerman & Rust (Nashville Credit Men's Association)	4.73
28	Petty & Wallace Sanitarium	7.50
30	Otto P. Myers (Squibb & Sons)	5.00
		$185.62

December.

5	Fairchild Bros. & Foster	$ 7.50
8	City View Sanitarium	7.50
11	Nashville Surgical Supply Co.	5.42
11	Southern Ice Co.	10.00
11	Louisville Neuropathic Sanitarium	4.00
13	Dr. Allen H. Bunce	10.00
13	Model Laundry	3.33
13	Katherine L. Storm	7.50
14	Co-operative Med. Adv. Bureau	89.94
17	Fairchild Bros. & Foster	7.50
20	Parke, Davis & Co.	14.25
20	Theo Tafel Co.	5.00
20	H. K. Mulford Co.	9.50
21	Oxford Retreat	2.50
24	Co-operative Med. Adv. Bureau	26.04
26	Armour & Co.	7.00
26	Lemcke & Breckner (1 yr. subscription)	2.00
28	Cincinnati Sanitarium	5.00
		$223.98

ADVERTISING CASH—1918.

January.

4	City View Sanitarium	$ 7.50
9	Louisville Neurpoathic Sanitarium	4.00
12	Nashville Surgical Supply Co.	5.42
12	Parke, Davis & Co.	7.13
12	Ambrose Printing Co.	6.66
14	Dr. Allen H. Bunce	5.00
17	Co-operative Med. Adv. Bureau	96.97
19	Southern Ice Co.	10.00
19	Oxford Retreat	2.50
21	Armour & Co.	7.00
21	H. K. Mulford Co.	9.50
23	Dr. Herman Spitz (advertising)	9.00
24	Year Book Publishers	2.00
25	Lynnhurst Sanitarium	15.00
28	Cincinnati Sanitarium	5.00
28	Fairchild Bros. & Foster	7.50
28	Dr. George Trawick (1 yr. subscription)	2.00
28	Jungerman & Rust (From Nashville Credit Men's Association)	6.30
		$208.48

February.

1	City View Sanitarium	$ 7.50
4	Drs. Newell & Newell	2.92
4	Petty & Wallace Sanitarium	7.50
5	Louisville Neuropathic Sanitarium	4.00
9	Parke, Davis & Co.	7.13
11	Dr. B. S. Galbraith (advertising)	5.00
12	Nashville Surgical Supply Co.	5.42
12	Ambrose Printing Co.	3.33
13	Theo Tafel Co.	10.00
14	Dr. Allen H. Bunce	5.00
14	Co-operative Med. Adv. Bureau	78.87
18	Armour & Co.	7.00
21	H. K. Mulford Co.	9.50
21	Fairchild Bros. & Foster	7.50
22	Oxford Retreat	2.50

25	Cincinnati Sanitarium	5.00
28	Dr. W. A. Bryan (payment for cuts)	11.50
		$179.67

March.

4	City View Sanitarium	$ 7.50
6	Southern Ice Co.	10.00
6	Katherine L. Storm	7.13
7	Louisville Neuropathic Sanitarium	4.00
7	Parke, Davis & Co.	7.13
11	Ambrose Printing Co.	3.33
12	Nashville Surgical Supply Co.	5.42
15	Dr. Allen H. Bunce	5.00
15	Co-operative Med. Adv. Bureau	88.09
15	Armour & Co.	7.00
18	H. K. Mulford Co.	9.50
18	Fairchild Bros. & Foster.	7.50
22	Watauga Sanitarium	17.52
22	Rich Printing Co. (by deduction from March statement)	54.20
23	Oxford Retreat	2.50
27	Cincinnati Sanitarium	5.00
		$240.82

MEMBERSHIP CASH—1917-1918.

From Secretaries.

April.

6	Dr. T. A. Patrick, Lincoln County	$ 8.00
6	Dr. E. C. Freeman, Giles County	18.00
6	Dr. E. H. Jones, Rutherford County	54.00
6	Dr. C. O. Bailey, Crockett County	14.00
6	Dr. R. H. Miller, Shelby County	2.00
6	Dr. R. H. Miller, Shelby County	2.00
6	Dr. W. W. Hill, Roane County	3.00
	($1.00 Medical Defense.)	
6	Dr. J. H. Williams, Carroll County	4.00
6	Dr. W. R. Irish, Campbell County	10.00
6	Dr. R. M. Young, Knox County	14.00
7	Dr. C. O. Bailey, Crockett County	2.00
7	Dr. W. K. Vance, Sullivan County	8.00
9	Dr. W. H. Stalling, Crockett County	2.00
9	Dr. J. L. Wright, Obion County	3.00
	($1.00 Medical Defense.)	
9	Dr. C. T. Love, Crockett County	1.00
	($1.00 Medical Defense.)	
9	Dr. L. D. McAuley, Fayette County	2.00
9	Dr. W. A. Carter, Greene County	2.00
9	Dr. A. B. Qualls, Overton County	3.00
	($1.00 Medical Defense.)	
9	Dr. K. S. Howlett, Williamson County	2.00
12	Dr. J. D. Carlton, Obion County	8.00
13	Dr. John P. Grisard, Franklin County	2.00
14	Dr. W. T. Bell, McNairy County	3.00
	($1.00 Medical Defense.)	
16	Dr. H. P. Larimore, Hamilton County	2.00
19	E. LeRoy Wilkins, Dyer County	5.00
	($1.00 Medical Defense.)	
21	Dr. S. T. Hardison, Marshall County	2.00
21	Dr. W. T. Bell, McNairy County	4.00
23	Dr. C. L. Hays, Tipton County	3.00
	($1.00 Medical Defense.)	
23	Dr. R. H. Miller, Shelby County	6.00
23	Dr. J. R. Richardson, Blount County	1.00
	($1.00 Medical Defense.)	
25	Dr. J. S. Lyons, Hawkins County	4.00
25	Dr. W. P. Allen, Rhea County	3.00
	($1.00 Medical Defense.)	
26	Dr. J. H. Williams, Carroll County	2.00
27	Dr. W. W. Hill, Roane County	1.00
	($1.00 Medical Defense.)	
		$200.00

May.

3	Dr. H. P. Larimore, Hamilton County	$ 7.00
	($1.00 Medical Defense.)	
3	Dr. E. W. Cocke, Hardeman County	6.00
3	Dr. C. O. Bailey, Crockett County	2.00
3	Dr. John O. Woods, Cocke County	2.00
4	Dr. W. K. Vance, Sullivan County	12.00
5	Dr. J. H. Williams, Carroll County	2.00
8	Dr. J. H. McSwain, Henry County	6.00
10	Dr. B. M. Tittsworth, Jefferson County	6.00
	($2.00 Medical Defense.)	
10	Dr. E. C. Freeman, Giles County	4.00
10	Dr. J. J. Abernathy, McNairy County	2.00
	(For Himself.)	
11	Dr. W. G. Saunders, Madison County	2.00
12	Dr. R. H. Miller, Shelby County	12.00
14	Dr. W. R. Irish, Campbell County	2.00
17	Dr. S. T. Parker, Henderson County	2.00
19	Dr. E. M. Fuqua, Davidson County	8.00
19	Dr. J. H. Williams, Carroll County	2.00
19	Dr. B. T. Bennett, Gibson County	3.00
	($1.00 Medical Defense.)	
24	Dr. H. P. Larimore, Hamilton County	6.00
25	Dr. J. W. Sanford, Lauderdale County	3.00
	($1.00 Medical Defense.)	
31	Dr. R. H. Miller, Shelby County	6.00
		$ 95.00

June.

1	Dr. W. T. Bell, McNairy County	1.00
	(Medical Defense.)	
2	Dr. R. H. Miller, Shelby County	12.00
2	Dr. W. W. Hill, Roane County	6.00
4	Dr. J. L. Edwards, Haywood County	2.00
13	Dr. Robert M. Poung, Knox County	10.00
8	Dr. W. C. Brown, Chester County	2.00
13	Dr. J. R. Richardson, Blount County	2.00
14	Dr. W. K. Vance, Sullivan County	8.00
15	Dr. E. W. Cocke, Hardeman County	2.00
18	Dr. H. P. Larimore, Hamilton County	8.00
20	Dr. G. C. Thomas, Weakley County	1.00
20	Dr G. C. Thomas, Weakley County	3.00
20	Dr. G. C. Thomas, Weakley County	4.00
20	Dr. H. P. Larimore, Hamilton County	8.00
21	Dr. R. A. Whitaker, Decatur County	4.00
21	Dr. T. M. Fuqua, Davidson County	12.00
26	Dr. H. P. Larimore, Hamilton County	6.00
28	Dr. Robert M. Young, Knox County	8.00
29	Dr. W. P. Allen, Rhea County	2.00
7	Dr. T. C. Freeman, Giles County	4.00
		$105.00

July.

3	Dr. J. L. Edwards, Haywood County	$ 2.00
5	Dr. E. M. Fuqua, Davidson County	2.00
7	Dr. J. W. Sanford, Lauderdale County	3.00
	($1.00 Medical Defense.)	
7	Dr. W. K. Vance, Sullivan County	6.00
9	Dr. H. P. Larimore, Hamilton County	2.00
9	Dr. H. P. Larimore, Hamilton County	12.00
9	Dr. H. D. Miller, Washington County	3.00
	($1.00 Medical Defense.)	
11	Dr. B. M. Tittsworth, Jefferson County	7.00
	($1.00 Medical Defense.)	
14	Dr. K. S. Howlett, Williamson County	2.00
14	Dr. W. K. Vance, Sullivan County	2.00
19	Dr. W. G. Saunders, Madison County	4.00
20	Dr. W. W. Hill, Roane County	4.00
20	Dr. J. D. Carlton, Obion County	2.00
23	Dr. W. W. Hill, Roane County	2.00
23	Dr. R. H. Miller, Shelby County	2.00
25	Dr. J. H. McSwain, Henry County	1.00
	(Medical Defense.)	
25	Dr. F. A. Zoller, Blount County	5.00
	($1.00 Medical Defense.)	
27	Dr. J. H. Williams, Carroll County	4.00
		$ 65.00

August.

1	Dr. C. P. Martin, Putnam County	$ 6.00
3	Dr. R. H. Miller, Shelby County	8.00
4	Dr. R. M. Young, Knox County	4.00
7	Dr. H. Weaver, Dickson County	6.00
7	Dr. M. A. Blanton, Greene County	2.00
10	Dr. E. M. Fuqua, Davidson County	8.00
14	Dr. S. T. Parker, Henderson County	2.00
16	Dr. H. P. Larimore, Hamilton County	4.00
24	Dr. Chas. Griffith, Coffee County	2.00
25	Dr. A. F. Richards, White County	3.00
	($1.00 Medical Defense.)	
25	Dr. J. D. Carlton, Obion County	4.00
		$ 49.00

September.

1	Dr. M. A. Beasley, Maury County	$6.00
8	Dr. W. K. Vance, Sullivan County	2.00
10	Dr. H. P. Larimore, Hamilton County	4.00
25	Dr. C. L. Hays, Tipton County	2.00
		$ 14.00

October.

1	Dr. Robert M. Young, Knox County	$ 4.00
4	Dr. E. M. Fuqua, Davidson County	4.00
5	Dr. W. K. Vance, Sullivan County	2.00
8	Dr. W. K. Vance, Sullivan County	2.00
11	Dr. J. D. Carlton, Obion County	4.00
18	Dr. Hartwell Weaver, Dickson County	2.00
18	H. C. Moorman, Fayette County	2.00
23	Dr. Robert M. Young, Knox County	6.00
		$ 26.00

November.

1	Dr. E. H. Jones, Rutherford County	$ 8.00
20	Dr. H. P. Larrimore, Hamilton County	16.00
20	Dr. W. R. Irish, Campbell County	4.00
		$ 28.00

December.

3	Dr. H. G. Moorman, Fayette County	$ 2.00
4	Dr. G. W. Moody, Bedford County	2.00
8	Dr H. P. Larimore, Hamilton County	10.00
10	Dr. H. P. Larimore, Hamilton County	4.00
27	Dr. H. P. Larimore, Hamilton County	10.00
31	Dr. H. P. Larimore, Hamilton County	6.00

January.

2	Dr. R. H. Miller, Shelby County	6.00
		$ 40.00

MEMBERSHIP CASH—1918.

January.

Nov. 9	A. J. Guinn, Polk County	$ 18.00
Dec. 6	Walter Dotson, Wilson County	28.00
	($4.00 Medical Defense.)	
Dec. 7	R. A. Whitaker, Decatur County	16.00
Dec. 7	Douglas Hayes, Grundy County	9.00
	($3.00 Medical Defense.)	
Dec. 10	Douglas Hayes, Grundy County	5.00
	($1.00 Medical Defense.)	
Dec. 12	E. LeRoy Wilkins, Dyer County	50.00
	($10.00 Medical Defense; $2.00 1917 Dues.)	
Dec. 17	E. H. Williams, Hardin County	12.00
	(6 Checks.)	
Dec. 26	A. F. Richards, White County	36.00
	($12.00 Medical Defense.)	
Dec. 31	H. P. Larimore, Hamilton County	2.00
	(Medical Defense.)	
Dec. 31	H. P. Larimore, Hamilton County	14.00
Dec. 31	M. A. Beasley, Maury County	43.00
	($3.00 Medical Defense; $2.00 1917 Dues.)	
Jan. 1	B. J. High, Smith County	30.00
Jan. 1	J. D. Carlton, Obion County	29.00
	($5.00 Medical Defense.)	
Jan. 1	J. D. Alexander, Lake County	20.00
	($4.00 Medical Defense.)	
Jan. 2	T. M. Roberts, Monroe County	30.00
	($10.00 Medical Defense.)	
Jan. 4	H. P. Larimore, Hamilton County	22.00
	($10.00 1917 Dues.)	
Jan. 4	H. P. Larimore, Hamilton County	6.00
	(Medical Defense.)	
Jan. 4	D. R. Pickens, Davidson County	4.00
	(1917 Dues.)	
Jan. 5	Hartwell Weaver, Dickson County	38.00
	($6.00 Medical Defense.)	
Jan. 7	T. A. Patrick, Lincoln County	38.00
Jan. 7	T. A. Patrick, Lincoln County	4.00
Jan. 8	Walter Dotson, Wilson County	2.00
Jan. 8	H. P. Larimore, Hamilton County	16.00
	($8.00 1917 Dues.)	
Jan.	H. P. Larimore, Hamilton County	1.00
	($1.00 Medical Defense.)	
Jan. 10	B. T. Bennett, Gibson County	67.00
Jan. 10	H. P. Larimore, Hamilton County	18.00
Jan. 10	H. P. Larimore, Hamilton County	2.00
	(Medical Defense.)	

Jan. 12—Milton Tharp, Davidson County	98.00
Pan. 12—John P. Grisard, Franklin County	8.00
Jan. 12—John O. Wood, Cocke County	20.00
Jan. 14—J. M. Cox, Anderson County	24.00
($8.00 Medical Defense.)	
Jan. 15—Hartwell Weaver, Dickson County	4.00
Jan. 15—S. T. Hardison, Marshall County	56.00
($12.00 Medical Defense.)	
Jan. 16—H. P. Larimore, Hamilton County	10.00
Jan. 16—H. P. Larimore, Hamilton County	2.00
(Medical Defense.)	
Jan. 17—O. H. Williams, Hardin County	4.00
Jan. 17—O. H. Williams, Hardin County	2.00
Jan. 17—O. H. Williams, Hardin County	2.00
Jan. 18—W. N. Lynn, Knox County	64.00
Jan. 19—Milton Tharp, Davidson County	12.00
Jan. 19—John M. Stewart, Weakley County	33.00
($7.00 Medical Defense.)	
Jan. 21—H. P. Larimore, Hamilton County	10.00
($2.00 1917 Dues.)	
Jan. 23—Milton Tharp, Davidson County	14.00
Jan. 24—R. L. Motley, Dyer County	3.00
($1.00 Medical Defense.)	
Jan. 24—H. P. Larimore, Hamilton County	10.00
Jan. 26—A. B. Qualls, Overton County	15.00
($5.00 Medical Defense.)	
Jan. 26—B. T. Bennett, Gibson County	3.00
($1.00 Medical Defense.)	
Jan. 26—W. W. Hill, Roane County	32.00
($6.00 Medical Defense.)	
Jan. 28—H. P. Larimore, Hamilton County	10.00
Jan. 28—H. P. Larimore, Hamilton County	2.00
(Medical Defense.)	
Jan. 28—J. F. Gallagher, Chairman	99.00
($33.00 Medical Defense.)	
Jan. 29—T. J. Hickman, Loudon County	5.00
($1.00 Medical Defense.)	
Jan. 29—J. H. McSwain, Henry County	26.00
($4.00 Medical Defense.)	
	$1,128.00

February.

1	Dr. H. P. Larimore, Hamilton County	$ 1.00
	(Medical Defense.)	
1	Dr. H. P. Larimore, Hamilton County	10.00
2	Dr. Milton Tharp, Davidson County	36.00
4	Dr. H. A. Nesbit, Montgomery County	3.00
	($1.00 Medical Defense.)	
7	Dr. M. A. Beasley, Maury County	12.00
7	Dr. J. H. Jones, Crockett County	6.00
7	Dr. Otis S. Warr, Shelby County	118.00
9	Dr. W. K. Vance, Sullivan County	34.00
9	Dr. T. J. Hickman, Loudon County	8.00
9	Dr. R. L. Motley, Dyer County	6.00
	($2.00 Medical Defense.)	
11	Dr. Milton Tharp, Davidson County	10.00
11	Dr. B. T. Bennett, Gibson County	2.50
	($1.00 Medical Defense.)	
11	Dr. H. P. Larimore, Hamilton County	6.00
	($2.00 Medical Defense.)	
12	Dr. John M. Stewart, Weakley County	3.00
	($1.00 Medical Defense.)	
12	Dr. G. W. Moody, Bedford County	28.00
13	Dr. W. M. Brown, Overton County	3.00
	($1.00 Medical Defense.)	
13	Dr. F. A. Zoller, Blount County	14.00
	($2.00 Medical Defense.)	
13	Dr. B. T. Bennett, Gibson County	.50
13	Dr. W. C. Brown, Chester County	14.00
15	Dr. W. T. Bell, McNairy County	3.00
	($1.00 Medical Defense.)	
18	Dr. W. N. Lynn, Knox County	22.00
18	—Dr. J. H. Jones, Crockett County	2.00
19	Dr. Milton Tharp, Davidson County	12.00
19	Dr. B. T. Bennett, Gibson County	3.00
	($1.00 Medical Defense.)	
20	Dr. F. K. Painter, Hamblen County	44.00
	($14.00 Medical Defense.)	
20	Dr. K. S. Howlett, Williamson County	11.00
	($3.00 Medical Defense.)	
20	Dr. W. W. Hill, Roane County	10.00
	($2.00 Medical Defense.)	
21	Dr. John R. Parker, Sumner County	40.00
	($9.00 Medical Defense.)	
21	Dr. E. H. Jones, Rutherford County	15.00
	($1.00 Medical Defense.)	
23	Dr. E. H. Jones, Rutherford County	2.00
23	Dr. J. H. McSwain, Henry County	4.00
23	Dr. John M. Stewart, Weakley County	6.00
23	Dr. Otis S. Warr, Shelby County	4.00
23	Dr. C. E. Reeves, Jackson County	3.00
	($1.00 Medical Defense.)	
23	Dr. H. D. Miller, Washington County	50.00
23	Dr. H. D. Miller, Washington County	11.00
	(Medical Defense.)	
25	Dr. H. P. Larimore, Hamilton County	6.00
25	Dr. H. P. Larimore, Hamilton County	2.00
	(Medical Defense.)	
25	Dr. T. J. Hickman, Loudon County	2.00
25	Dr. R. L. Motley, Dyer County	6.00
	($2.00 Medical Defense.)	
26	Dr. G. W. Moody, Bedford County	2.00
27	Dr. B. M. Tittsworth, Jefferson County	30.00
	($10.00 Medical Defense.)	
28	Dr. Herman Hawkins, Madison County	42.00
7	Dr. J. D. Carlton, Obion County	4.00
7	Dr. Otis Warr, Shelby County	8.00
26	Dr. T. M. Roberts, Monroe County	3.00
	..	$661.50

March.

1	Dr. F. A. Zoller, Blount County	$ 2.00
2	Dr. J. D. Carlton, Obion County	2.00
2	Dr. J. H. McSwain, Henry County....6..	3.00
	($1.00 Medical Defense.)	
4	Dr. H. P. Larimore, Hamilton County	6.00
6	Dr. H. D. Miller, Washington County	3.00
	($1.00 Medical Defense.)	
6	Dr. Otis S. Warr, Shelby County	8.00
6	Dr. Geo. A. Brandon, Henderson County	48.00
	($6.00 Medical Defense.)	
6	Dr. W. T. Bell, McNairy County	10.00
	($2.00 Medical Defense.)	
6	Dr. R. C. Gaw, Jackson County	18.00
	($6.00 Medical Defense.)	
6	Dr. Milton Tharp, Davidson County	16.00
7	Dr. H. P. Larimore, Hamilton County	6.00

7	Dr. H. P. Larimore, Hamilton County.. ($1.00 Medical Defense.)	1.00
7	Dr. B. F. Runyon, Montgomery County... ($8.00 Medical Defense.)	34.00
8	Dr. Walter Dotson, Wilson County......	2.00
8	Dr. M. A. Blanton, Greene County..... ($5.00 Medical Defense.)	53.00
8	Dr. B. M. Tittsworth, Jefferson County.. ($3.00 Medical Defense.)	9.00
8	Dr. W. K. Vance, Sullivan County......	10.00
11	Dr. H. P. Larimore, Hamilton County...	10.00
11	Dr. H. P. Larimore, Hamilton County.. ($1.00 Medical Defense.)	1.00
11	Dr. Geo. A. Brandon, Henderson County. ($1.00 Medical Defense.)	3.00
11	Dr. W. C. Brown, Chester County.....	4.00
11	Dr. M. A. Beasley, Maury County....... ($1.00 Medical Defense.)	9.00
11	Dr. Otis Warr, Shelby County.........	4.00
11	Dr. H. H. Hawkins, Madison County.....	18.00
15	Dr. F. A. Zoller, Blount County........	2.00
15	Dr. H. P. Larimore, Hamilton County..	6.00
15	Dr. R. C. Miller, Rhea County......... ($3.00 Medical Defense.)	13.00
16	Dr. W. C. Brown, Chester County......	2.00
18	Dr. O. S. Warr, Shelby County..........	8.00
18	Dr. J. D. Carlton, Obion County........ ($3.00 Medical Defense.)	9.00
18	Dr. L. Hill, Jr., Tipton County......... ($7.00 Medical Defense.)	21.00
18	Dr. W. N. Lynn, Knox County.........	28.00
18	Dr. K. S. Howlett, Williamson County... ($2.00 Medical Defense.)	8.00
18	Dr. Lex Dyer, Putnam County......... ($1.00 Medical Defense.)	36.00
18	Dr. E. W. Cocke, Hardeman County.....	20.00
19	Dr. W. T. Bell, McNairy County....... ($1.00 Medical Defense.)	3.00
19	Dr. A. Y. Kirby, Macon County........	18.00
23	Dr. L. Hill, Jr., Tipton County......... ($2.00 Medical Defense.) ($6.00 Medical Defense.)	3.00
19	Dr. L. Hill, Jr., Tipton County......... ($3.00 Medical Defense.)	9.00
19	Dr. R. P. Beasley, Hickman County.....	8.00
20	Dr. John E. Powers, Coffee County..... ($6.00 Medical Defense.)	18.00
21	Dr. R. A. Whitaker, Decatur County....	2.00
21	Dr. H. P. Larimore, Hamilton County..	8.00
21	Dr. W. W. Hill, Roane County..........	4.00
21	Dr. Joe B. Lackey, Lauderdale County.. ($2.00 Medical Defense.)	64.00
22	Dr. Walter Dotson, Wilson County.... ($1.00 Medical Defense.)	3.00
23	Dr. John R. Parker, Sumner County.... ($1.00 Medical Defense.)	6.00
23	Dr. Otis Warr, Shelby County...........	20.00
25	Dr. F. A. Zoller, Blount County.........	2.00
25	Dr. W. T. Bell, McNairy County....... ($2.00 Medical Defense.)	18.00
26	Dr. E. H. Jones, Rutherford County.... ($1.00 Medical Defense.)	17.00
26	Dr. J. W. Ogle, Sevier County.......... ($2.00 Medical Defense.)	18.00
26	Dr. B. T. Bennett, Gibson County...... $1.00 Medical Defense.)	3.00
26	Dr. W. T. Bell, McNairy County.........	2.00
		$659.00

March.

27	Dr. Otis Warr, Shelby County..........	$ 20.00
28	Dr. Geo. A. Brandon, Henderson County.	2.00
28	Dr. G. C. Grimes, Giles County.........	32.00
28	Dr. W. T. Bell, McNairy County......... $1.00 Medical Defense.)	3.00
28	Dr. J. E. Powers, Coffee County........	8.00
28	Dr. John O. Woods, Cocke County.......	2.00
30	Dr. J. H. Williams, Carroll County......	30.00
30	Dr. J. D. Carlton, Obion County.......	4.00
	..	$101.00

DISBURSEMENTS.

1917.

April 9	Olin West, Secretary, stamps....	$ 10 00
April 9	Cumm. Tel. Co., svc. for M. 1887..	4.50
April 9	Nash. Property Co., May rent......	24.00
April 9	Dr. R. S. Miller, Medical Defense.	1.00
April 9	Dr. R. S. Miller, Medical Defense.	1.00
April 9	Dr. R. S. Miller, Medical Defense.	1.00
April 10	Mabel Miller, April Salary.......	60.00
April 14	Dr. S. R. Miller, Medical Defense.	1.00
April 14	W. O. Beall, (reporting proceedings (section)	77.60
April 20	Dr. S. R. Miller, Medical Defense.	1.00
April 20	Southern Star Laundry, office laundry	1.84
April 21	Wm. Whitford, reporting meeting and expenses	132.52
April 21	Miss Margaret Gerraty, stenographic work, legislative com..	12.50
April 21	Western Union, delivery of April Journal	.80
April 23	Dr. S. R. Miller, Medical Defense.	1.00
April 23	Dr. S. R. Miller, Medical Defense.	1.00
April 25	Dr. S. R. Miller, Medical Defense.	1.00
April 25	Central Press Clipping Service...	2.00
April 27	Dr. S. R. Miller, Medical Defense.	1.00
May 3	Dr. S. R. Miller, Medical Defense.	1.00
May 4	Cumberland Tel. Co.	6.52
May 4	Nashville Property Co., May rent..	24.00
May 4	Nash. Ry. & Light Co., April acct..	1.00
May 4	Southern Ice Co.	3.35
May 4	Dr. Olin West, Secretary, stamps..	5.00
May 5	Bastian Bros. Co., badges for meeting	40.40
May 4	Mabel Miller, May salary.........	60.00
May 8	Foster & Parkes, record book.....	2.25
May 8	McQuiddy Ptg. Co. (programs, $36.00; ptg. Journals, $245.27).	281.27
May 8	Miss Grace Dawson, stenographic work, minutes of the House of Delegates	20.00
May 10	Dr. S. R. Miller, Medical Defense.	2.00

May 16	Western Union, delivery of May Journal	.90
May 10	Dr. S. R. Miller, Medical Defense.	1.00
May 25	Dr. Olin West, Secretary, stamps..	5.00
June 1	Dr. S. R. Miller, Medical Defense.	1.00
June 2	Dr. S. R. Miller, Medical Defense.	2.00
June 2	Nashville Property Co.	24.00
June 2	Cain-Sloan Co.	.64
June 2	Mabel Miller, June salary	60.00
June 4	Cumb. Tel. Co., M. 1887	4.50
June 4	McQuiddy Ptg. Co., copies May Journal, $190.00; extra pages, 23.76; alterations, $7.00; postage, $5.88	226.64
June 4	Southern Ice Co., water for May..	1.00
June 4	Southern Star Laundry, April, May and June bill	1.11
June 4	Dr. Olin West, on salary	125.00
June 11	Ambrose Printing Co., diary, $1.00; Jumbo file, $1.00; loose sheets, $3.00; clips, 45c; envelopes, $3.50	8.95
June 16	Dr. Olin West, Secretary, stamps..	5.00
June 18	Western Union, delivery of May Journals	.80
June 27	Rich Ptg. Co., June Journal, $210.00; half tone, $5.92	215.92
July 3	Cumb. Tel. Co., for M. 1887	4.50
July 3	Nashville Property Co., July rent.	24.00
July 3	Nash. Ry. & Light Co., light bill..	1.00
July 3	Mabel Miller, July salary	60.00
July 3	Dr. A. F. Richards, expenses at A. M. A. meeting	50.00
July 7	Dr. S. R. Miller, Medical Defense.	1.00
July 9	Dr. S. R. Miller, Medical Defense.	1.00
July 11	Dr. S. R. Miller, Medical Defense.	1.00
July 11	Dr. Olin West, Secretary, stamps..	10.00
July 12	Dr. Olin West, Secretary, on salary	125.00
July 12	Dr. Olin West, Secretary, stamps..	10.00
July 17	Western Union, delivery of July Journals	.90
July 19	Rich Ptg. Co., July Journals, $210.00; postage, $5.47; cuts, $2.25; alterations, $227.00; reprints, $7.50	227.49
July 25	Dr. S. R. Miller, Medical Defense..	1.00
July 25	Dr. S. R. Miller, Medical Defense..	1.00
July 31	Dr. Olin West, Secretary, on salary	75.00
Aug. 1	Mabel Miller, August salary	60.00
Aug. 2	Nashville Property Co., Aug rent.	24.00
Aug. 2	Cumb. Tel. Co., services and toll...	6.30
Aug. 2	Nash. Ry. & Light Co.	3.32
Aug. 7	Dr. Olin West, Secretary, stamps..	5.00
Aug. 9	Southern Ice Co.	6.65
Aug. 9	Ambrose Ptg. Co., 2,500 envelopes.	7.00
Aug. 9	Central Press Clipping Service, June and July	4.00
Aug. 17	Western Union, delivery August Journals	.90
Aug. 21	Mabel Miller, September salary..	60.00
Aug. 25	Rich Ptg. Co., August Journal, $210.00; postage, July and August, $10.70	220.70
Aug. 27	Dr. S. R. Miller, Medical Defense..	1.00
Aug. 31	Dr. Olin West, Secretary, stamps..	5.00
	$2.22; lights, $1.11; dis., .33...	3.00
Sept. 5	Nashville Property Co., for Sept. rent and $26.00 to apply for rugs, etc., from Dr. Lee	50.00
Sept. 6	Nashville Laundry Co., July and August	2.34
Sept. 8	Cumb. Tel. Co., services and toll..	6.25
Sept. 18	Dr. Olin West, on salary	75.00
Sept. 20	Western Union, delivery of Sept. Journal	.90
Sept. 27	Rich Ptg. Co., Sept. issue of the Journal, $210.00; postage, $5.44.	215.44
Oct. 1	Dr. Olin West, Secretary, stamps..	5.00
Oct. 1	Mabel Miller, October salary	60.00
Oct. 1	Nash. Ry. & Light Co., lights, $2.22; fan, $1.11; dis. .33	3.00
Oct. 1	Nashville Property Co., Oct. rent..	50.00
Oct. 1	Cumb. Tel. Co., telephone service..	6.80
Oct. 1	Ambrose Ptg. Co., bottle ink	1.00
Oct. 1	Dr. Olin West, on salary	100.00
October 10	J. G. Perry, notary, sworn statement of circulation of Journal, etc.	1.00
Oct. 11	Southern Ice Co.	6.15
Oct. 16	Dr. J. F. Gallagher, treasurer, honorarium	100.00
Oct. 24	Dr. Olin West, Secretary, stamps..	5.00
Oct. 31	Rich Ptg. Co., October Journal, $2.10; postage, $5.79	215.79
Nov. 1	Mabel Miller, November salary..	60.00
Nov. 2	Nash. Ry. & Light Co., lights for October	1.00
Nov. 2	Cumb. Tel. Co., M. 1887	6.00
Nov. 2	Ambrose Ptg. Co., 1 package yellow sheets, .50; 3 steno tablets, .30; 1 doz. No. 2 pencils, .50; 1 memo. book, .10	1.40
Nov. 2	Nashville Laundry	1.49
Nov. 6	Nashville Property Co., Nov. rent..	25.00
Nov. 6	Central Press Clipping Service, balance for August and September, $4.00; October, $2.00...	6.00
Nov. 6	Underwood Typewriter Co., 1 record ribbon	.75
Nov. 6	Dr. Olin West, on salary	80.00
Nov. 15	Dr. Olin West, Secretary, stamps..	5.00
Nov. 15	Western Union, delivery of November Journals	.80
Nov. 19	Rich Ptg. Co., November Journal, $210.00; cuts, $6.12; postage, $6.32	222.44
Dec. 5	Nash. Property Co., rent for Dec...	25.00
Dec. 5	Central Press Clipping Service, November account	2.00
Dec. 5	Cumb. Tel. Co., service, M. 1887..	6.00
Dec. 5	Ambrose Ptg. Co., 2 ledgers, $3.80; 1 journal, $1.10	4.90
Dec. 5	Nash. Ry. & Light Co., (dis. .19)..	1.68
Dec. 5	Mabel Miller, December salary...	60.00
Dec. 6	Dr. S. R. Miller, Medical Defense.	4.00
Dec. 6	Dr. Olin West, Secretary, stamps..	5.00

Dec. 7	Dr. S. R. Miller, Medical Defense.	3.00
Dec. 8	Dr. Olin West, on salary	80.00
Dec. 8	King & Selley, annual report blanks	1.50
Dec. 10	Dr. S. R. Miller, Medical Defense.	1.00
Dec. 10	Underwood Typewriter Co., stencil paper	2.00
Dec. 12	Dr. S. R. Miller, Medical Defense.	10.00
Dec. 17	Rich Ptg. Co., December Journal, $210.00; cuts, $14.46; 100 additional copies, $6.50...........	230.96
Dec. 17	Dr. Olin West, Secretary, stamps..	5.00
Dec. 18	Western Union, delivery of December Journals	.80
Dec. 28	Dr. S. R. Miller, Medical Defense.	12.00
Dec. 31	Dr. S. R. Miller, Medical Defense.	2.00
Dec. 31	Dr. S. R. Miller, Medical Defense.	3.00
Dec. 31	Hermitage Laundry, office laundry	.69
Dec. 31	Dr. Olin West, Secretary, stamps..	5.00
1918.		
Jan. 1	Dr. S. R. Miller, Medical Defense.	5.00
Jan. 3	Dr. Olin West, on salary	85.00
Jan. 4	Dr. S. R. Miller, Medical Defense.	10.00
Jan. 4	Dr. S. R. Miller, Medical Defense.	6.00
Jan. 5	Dr. S. R. Miller, Medical Defense.	6.00
Jan. 5	Cumb. Tel. Co., services, M. 1887..	6.45
Jan. 5	Southern Ice Co., October, November and December	3.00
Jan. 5	Central Press Clipping Service, December account	2.00
Jan. 5	Remington Typewriter Co., coupon book	3.50
Jan. 8	Mabel Miller, January salary	60.00
Jan. 8	Dr. S. R. Miller, Medical Defense..	1.00
Jan. 9	Dr. Olin West, Secretary, stamps..	5.00
Jan. 14	Dr. S. R. Miller, Medical Defense.	2.00
Jan. 14	Dr. S. R. Miller, Medical Defense.	8.00
Jan. 14	Dr. S. R. Miller, Medical Defense.	16.00
Jan. 15	Dr. S. R. Miller, Medical Defense.	12.00
Jan. 16	Dr. S. R. Miller, Medical Defense.	2.00
Jan. 17	Dr. Olin West, Secretary, stamps..	10.00
Jan. 18	Western Union, delivery of January Journals	.80
Jan. 19	Dr. S. R. Miller, Medical Defense.	7.00
Jan. 21	Rich Ptg. Co., January Journal, $210.00; extra copies, $6.50; cuts, $11.98; etchings, $3.50; postage for December and January, $12.31	244.19
Jan. 24	Dr. S. R. Miller, Medical Defense.	1.00
Jan. 26	Dr. S. R. Miller, Medical Defense.	1.00
Jan. 26	Dr. S. R. Miller, Medical Defense.	5.00
Jan. 26	Dr. S. R. Miller, Medical Defense.	6.00
Jan. 28	Dr. S. R. Miller, Medical Defense.	2.00
Jan. 28	Southern Ice Co., October, November and December account....	3.95
Jan. 28	Dr. S. R. Miller, Medical Defense.	33.00
Jan. 29	Dr. S. R. Miller, Medical Defense.	1.00
Jan. 29	Dr. S. R. Miller, Medical Defense.	4.00
Jan. 29	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 1	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 4	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 4	Mabel Miller, February salary....	60.00
Feb. 4	Dr. Olin West, Secretary, stamps..	10.00

Feb. 7	Dr. Olin West, Secretary, on salary	85.00
Feb. 7	Dr. Perry Bromberg, delegate to A. M. A. 1917 meeting.........	50.00
Feb. 7	Nash. Ry. & Light Co., bill for February	4.95
Feb. 7	Cumb. Tel. Co., bill for February, $6.50; toll, .30; (dis. .50)......	6.30
Feb. 7	Central Press Clipping Service, January service	2.00
Feb. 9	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 11	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 12	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 13	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 13	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 15	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 15	Western Union, delivery of February Journals	.80
Feb. 18	Rich Ptg. Co., February Journals, $210.00; 100 extra copies, $6.50; cuts, $23.04; postage, $6.33.	245.87
Feb. 19	Dr. Olin West, Secretary, stamps..	10.00
Feb. 19	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 20	Dr. S. R. Miller, Medical Defense.	14.00
Feb. 20	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 20	Dr. S. R. Miller, Medical Defense.	3.00
Feb. 20	Dr. O. A. Oliver, rent paid on Room 349, Doctors' Bldg., for 1 1-2 months	37.50
Feb. 21	Dr. Olin West, on salary	75.00
Feb. 21	McEwen Laundry, office laundry..	1.00
Feb. 21	Dr. S. R. Miller, Medical Defense.	10.00
Feb. 21	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 23	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 23	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 23	Dr. S. R. Miller, Medical Defense.	11.00
Feb. 25	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 25	Dr. S. R. Miller, Medical Defense.	2.00
Feb. 26	James Peakes, janitor	1.00
Feb. 26	Dr. S. R. Miller, Medical Defense.	1.00
Feb. 27	Dr. S. R. Miller, Medical Defense.	10.00
March 1	Mabel Miller, March salary	60.00
March 1	Dr. Olin West, Secretary, stamps.	10.00
March 2	Dr. S. R. Miller, Medical Defense	1.00
March 2	James Peakes, janitor	1.00
March 6	Dr. S. R. Miller, Medical Defense	1.00
March 6	Dr. S. R. Miller, Medical Defense	6.00
March 6	Dr. S. R. Miller, Medical Defense	6.00
March 6	Dr. S. R. Miller, Medical Defense	2.00
March 6	Cumb. Tel. Co., services, M. 1887	6.00
March 7	Dr. S. R. Miller, Medical Defense	1.00
March 7	Dr. S. R. Miller, Medical Defense	8.00
March 8	Dr. S. R. Miller, Medical Defense	3.00
March 8	Dr. S. R. Miller, Medical Defense	5.00
March 8	James Peakes, janitor	1.00
March 11	Dr. S. R. Miller, Medical Defense	1.00
March 11	Dr. S. R. Miller, Medical Defense	1.00
March 11	Dr. S. R. Miller, Medical Defense	1.00
Marer 14	Howe's Tri-Pure Distilled Water Co.	4.55
March 14	Ambrose Ptg. Co., 1,000 bill heads, $3.75; 2,500 envelopes, $6.00; 1,000 index cards, $1.50; 2,000 letter heads, $5.50; yellow sheets, .50	17.25

March 14	Cain-Sloan Co., 2 shades for office at 601 Cedar Street	1.20
March 14	E. M. Bond Furniture Co., for moving from Doctors' Bldg. to Cedar Street	6.00
March 14	Central Press Clipping Service, February account	2.00
March 15	Dr. S. R. Miller, Medical Defense	3.00
March 16	James Peakes, janitor	1.00
March 18	Dr. S. R. Miller, Medical Defense	5.00
March 18	Dr. S. R. Miller, Medical Defense	7.00
March 18	Dr. S. R. Miller, Medical Defense	10.00
March 20	Dr. S. R. Miller, Medical Defense	6.00
March 20	Dr. S. R. Miller, Medical Defense	3.00
March 20	Dr. S. R. Miller, Medical Defense	1.00
March 20	E. S. Shannon, Postmaster, for stamps	10.00
March 20	Dr. S. R. Miller, Medical Defense	6.00
March 20	Western Union, delivery March Journals	.80
March 21	Dr. S. R. Miller, Medical Defense	20.00
March 21	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from Feb. 15 to March 15	15.00
March 22	Rich Ptg. Co., March Journals, $210.00; extra copies, $6.50; cuts, $18.03; postage, $5.61; less Rich Ptg. Co. statement of $54.20	185.94
March 22	Dr. S. R. Miller, Medical Defense	1.00
March 23	Dr. Olin West, balance on salary	95.00
March 23	Dr. S. R. Miller, Medical Defense	2.00
March 23	James Peakes, janitor	1.00
March 23	Dr. S. R. Miller, Medical Defense	1.00
March 25	Dr. S. R. Miller, Medical Defense	6.00
March 26	Dr. S. R. Miller, Medical Defense	1.00
March 26	Dr. S. R. Miller, Medical Defense	2.00
March 26	Dr. S. R. Miller, Medical Defense	1.00
March 28	Dr. S. R. Miller, Medical Defense	1.00
April 1	Dr. S. R. Miller, Medical Defense.	2.00
April 1	Dr. S. R. Miller, Medical Defense.	2.00
Total		$5,996.20

SUMMARY.

Receipts from advertising, subscriptions, etc.	$2,552.79
Receipts from membership dues, including Medical Defense asssesments remitted to Secretary	3,172.00
Interest on deposits	36.90
Total income for year	$5,761.69
Balance on hand April 1, 1917	2,003.51
Grand total for year	$7,765.20

Balance on hand April, 1, 1917	$2,003.51
Deposited in bank	5,670.59
Credit Rich Printing Co. on Journal account, for advertising	54.20
Interest Received on bank balances	36.90
Total	$7,765.20

Total balance deposits and interest	$7,711.00
Canceled checks returned	5,956.20
Apparent balance	$1,754.80
Deduct outstanding checks Nos. 232-5-7-9 and 240-1-2-3-4-5-6-7.	40.00
Actual balance on hand April 1, 1918	$1,714.80

J. F. Gallagher, *Treasurer.*

April 9, 1918.

Examined and approved:

A. F. Richards,
W. T. Farmer.
W. Britt Burns,
Auditing Committee.

The Secretary: Mr. Chairman, the usual procedure is to refer this report of the Treasurer to an Auditing Committee to be named by the Chair.

The Chairman: The next thing in the order of business is the report of committees. We will hear the report of the Committee on Public Policy and Legislation.

Dr. O. Dulaney: I do not know whether there is anyone else here on that committee or not, but if the House of Delegates will permit, I would be very glad to have Dr. Haase speak to us in regard to the Shields Bill. Personally, I would certainly like to know what has been done in regard to the Shields and Owen bills. Dr. Haase has been to Washington to confer with them in regard to it, and if it meets with the approval of the House of Delegates, I would like to make a motion that we hear from Dr. Haase.

The motion was seconded by Dr. W. B. Burns and carried.

The Secretary: Before Dr. Haase starts, please let me ask that each man who addresses House will distinctly announce his name for the benefit of the stenographer. Now, I know most of you, but I have a good deal to think about, and later I would have some difficulty in remembering who said what. So please announce your names so the stenographer can get them correctly.

The Chairman: We will hear from Dr. Haase.

Dr. Haase: Mr. Chairman and members of the House of Delegates, three weeks ago, at the request of Mr. McKellar, the Senator from Tennessee, and a member of the Military Affairs Committee of the Senate, I went to Washington to confer with him in regard to the Owen Bill. This was on Thursday, this coming Thursday will be three weeks ago. On my arrival there, he said that there would be a hearing on the Owen Bill before the Senate Committee the next morning, and that he would like for me to be present. He did not ask that I be a witness, but stated that he would just like for the medical profession of Tennessee to see just the condition that existed there.

The Military Affairs Committee met the following morning and he said at that time that he feared that the Owen Bill could not pass the Senate Committee. The next morning the Senate Committee met, and the following gentlemen were witnesses in favor of the Owen Bill: Surgeon-General Gorgas, Dr. Franklin Martin, Dr. Charles Mayo, and Lieut-Col. Victor Vaughn. They were quizzed to a considerable extent, and when we left the committee room we were all impressed with the idea that the committee were not favorable towards the Owen Bill. Strange as it may seem to us who have all done some little more or less politics, the position of that committee had not been felt out previous to going before this committee.

That evening I had dinner with Senator McKellar, and he said: "It is going to be absolutely impossible to get that bill passed by that committee." I worked on that for the next three or four days, seeing different men. I saw Senator Kirby of Arkansas and Senator Beckham of Kentucky and Senator Wadsworth, all of whom told me personally that they feared that the Owen Bill could not pass in its present form or be approved by this committee. I took the matter up again with Senator McKellar, and asked him what was best to do about the matter, Senator McKellar being very anxious to be of service, and being very anxious to have something passed for the medical profession.

The result of our conferences with Colonel Vaughn was the present Shields Bill. He thought, as did other members of the committee whom I saw later, that the Shields Bill in its present form could pass the Senate Committee and be reported out favorably; and so Senator Shields read the bill—read it twice on the following Thursday evening, and it is referred to the Military Affairs Committee at the present time.

Now, I have a telegram here that I received last night from Senator McKellar, as follows:

"A number of Tennessee doctors have telegraphed or written Senator Shields complaining at the introduction of the Shields Bill, and urging him to support the Owen Bill. They claim in their letter that the Shields Bill militates against the Reserve Corps. This, you know, is not correct, as you saw for yourself that it is absolutely imposible for the Owen Bill to get through our committee. Dont' you think it wise to have your Association, which, I understands, meets in Memphis tomorrow, take action relative to the matter? You should explain the situation, showing that apparently the compromise of the bill which Senator Shields was asked to introduce by the doctors is the only measure that can be gotten through.

(Signed.)

"Kenneth McKellar."

Now, then, in the face of that, yesterday Colonel Vaughn told me that Senator Owen believed that the Owen Bill could pass; that Owen had informed him, either directly or indirectly, that there were ten members of the sixteen members of the Military Affairs Committee in favor of the Owen Bill at the present time.

My object in bringing this before the House of Delegates is simply to place Mr. Shields right before the profession in Tennessee, and either request that he work for the Owen Bill and get it through if there is any possibility of doing so, or, if not, then to do his utmost to carry his own bill through the Military Affairs Committee and have it voted out favorably.

I have quite a bit of matter here, and should there be anyone who desires to ask any questions, I shall be glad to answer them to the best of my ability. I know that Dr. Haggard has quite a bit to say on the subject, and no doubt the House of Delegates would like to hear from him.

Dr. W. D. Haggard: Mr. Chairman, I do not know really that I have anything to say. Of course, in common with every other member of the medical profession, I am anxious to see some legislation enacted that will give to these men that have left their civil practice to go into the army some sort of recognition.

It seems to me that we have never asked for any legislation hitherto that had anything to do with the medical profession for its own benefit. What legislation we have asked for has been for the good of the people. Now, it seems to me that we all agree that something ought to be done in order to make the medical man in the army efficient, and to give him some sort of authority by which the recommendations that he makes as the result of his special knowledge and training and experience will have some weight with his superior officers. In other words, we all recall the terrible typhoid that happened at Chickamauga. The medical men knew how to prevent this disease, but their recommendations had no weight. You all know the terrible toll of life that was the result of that.

Now, my own information is that the Owen Bill has been very, very carefully considered by all elements of the medical profession; that it has the sanction of the Surgeon-General. He has gone over it very thoroughly with due deference to every single arm of the service. As I understand, it means that the medical men of the army shall be given the same rank as is now in the medical department of the Navy. As you know, at the present time no medical man can have a rank greater than that of major; that is, in the Medical Reserve Corps; whereas a man that is in the Medical Corps—that is, the old Regular Army—a surgeon can have a higher rank. Now, is that fair? Here we have two men start out from the same college or hospital. One will go into the army; the other will go into the civil practice. They go out equally well informed. The man in the army, however, doesn't have the opportunity for coming in contact with the people, or with disease and sickness, and does not perfect himself as a man in the civil practice does. Now, when we come into war, what happens? There are only about three or four hundred men in the Medical Corps, and of course they could not take care of the needs of a great army, and so what happened was that the civilian surgeons were appealed to. And how have they responded? Some of the greatest men in our country have responded promptly and offered their services. In our own state, four hundred and seventy-nine doctors have gone into the Medical Reserve Corps.

I feel a great interest in this matter, because it so happened that I chanced to be made chairman of the committee of this state to encouragee volunteering in this very important service. Now, instead of four hundred and fifty doctors in the Army that they formerly had, the Medical Corps has gone up to something like eight hundred, and the Medical Reserve Corps has gone up to eighteen thousand. So who is going to take care of the sick and wounded in France? The Medical Reserve Corps. Is it right that they should receive a rank no higher than that of major? Isn't it right that these men should have a rank commensurate with their needs and ability and the urgency of the situation?

The greatest difficulty that we have had in asking men to join the reserve corps—they are patriotic and dont' have to be conscripted—the trouble has been to hold men back who wanted to go, men beyond the age, county health officers. One man, a county health officer, had eleven children, but said: "I want to go." We have, of course, discouraged men of that sort. How about the middle-aged man who has a wife and two children, and who goes in? He gets first a lieutenancy, and receives a hundred and sixty-six dollars a month. Can he take care of that family on that? He cannot do it. So there are splendid men today whom we cannot encourage to go into the Medical Reserve Corps on that account.

Now, I look at it this way. I want the Medical Corps to have everything that is coming to them, but I want to put it on a parity. This will happen: The Medical Corps man receives a grade higher than the ordinary grade; he can keep that all the balance of his life and retire on it. What will the civilian surgeon do? The minute we get this war won, he is going back home to take care of his business. He doesnt' want to quit. He wants to get back to business.

I say that it is going to work no hardship on the Government to pass this Owen Bill that was introduced away last summer, and that has gone through every medical society in the country, and has the endorsement of practically every medical society in the country and of all the medical men.

Now, some months ago I had correspondence with all our representatives in Congress, among them Senator Shields. Senator Shields, who is a splendid patriot and a great jurist, and of whom we ought to be proud as a Tennessean, wrote me that he would be very glad to support the Owen Bill. Not only that, but he wrote a letter which was published in our Journal in January, saying that he would support the Owen Bill. Now, for some reason that I do not understand, he was induced to introduce another bill because this first one might not pass. Well, is that the way to win a war? Just because we are afraid something will not happen? We can never get anything in the medical profession if we have division. What do the legislators say to us? "You doctors don't know what you want," and I sometimes think they tell the truth.

Now, I will tell you what we want. We want a plain, straightforward bill that will give to the medical department of the army and every single, solitary department just the same authority a man will have in the department of the Navy, and I might say, in a practical way, the same as we would have in the line officers.

Now, when I learned that Senator Shields had introduced a bill, I took it up with him, and told him the reasons why we were all very anxious to see the Owen Bill pass, and he sent me a telegram—I did not know this matter was coming up at this time, or I would have brought it with me—to the effect that he would be very glad to support the Owen Bill, and that he introduced this one simply because he was told that the other one could not pass, but that he would be very glad to support the Owen Bill, "if you are willing to stand or fall by the Owen Bill;" that he would support it, do his best. That is what we want. I, for one, think that the Association of Tennessee should say, "Yes, we are willing to stand or fall by the Owen Bill." (Applause.)

There never was a grander man in our profession than the Surgeon-General, William C. Gorgas, of our Army. (Applause.) I had the privilege of serving under him, and still have. I don't believe I ever saw a fairer man in my life. He doesnt' want red tape. All he wants is something that is white and clean and efficient.

This bill has been gone over by every department of the Army. Dr. Mayo told me that he never had spent as much time on any problem in his life, in an advisory way, trying to get the thing right so it would serve all purposes and would be "on the square" to everybody, and particularly to the civilian surgeon who is sacrificing so much. Do you realize that more men have volunteered with the Medical Reserve Corps, proportionally, that the percentage of doctors is larger than the percentage of any other profession or calling, of men between the ages of twenty-one and fifty-five? There is no greater sacrifice that has or can or ever will be made on earth than has been made by the medical profession of America to help win this war.

Now, what is more, President Wilson himself has, in a published document, given his sanction to the Owen Bill. Now, if you or I never heard of it on earth before, that ought to be enough to tell the tale. (Applause.) So it seems to me, gentlemen, that the Tennessee State Medical Association is in a very peculiar and rather pivotal position. Here every state in the Union is practically united on the support of this bill. Here we are, a little part of this profession who have furnished our quota—I want to say to you that Tennessee has furnished its quota of medical men. Now *our* two Senators, why, of all Senators in that great arm of our Government, why should it be *our* two senators only who are thinking about introducing new bills? It is not their fault. It is our fault. We have not told them right. Now, what is the trouble with Tennessee that we cannot get together? What was the trouble when there were cantonments to be established? Did Tennessee get one? Not one did we get. There were thirty-two cantonments, sixteen in the South, in adjoining states, in sister states, and not one in Tennessee. What is the matter? Our two Senators lived in opposite ends of the state, and couldn't get together in either one of them. Now, let's don't let that happen in that important measure.

General Gorgas has more commissioned officers under him than any other man. He ought to know what sort of law he wants.

I have no criticism against the Shields Bill. Dr. Haase was kind enough to send it to me. I looked it over. It provides for the veterinarian and the dentist. It looks fine for the veterinarian and the dentist, a horse doctor and a tooth doctor, but it doesn't look very strong for the regular doctor, who is taking care of the sick and injured. I don't want to inject any acrimony into this discussion, but I want to say that if Tennessee is really a volunteer state, it is time for us to take care of our volunteers. I believe it would be wise—I don't know what the subject is technically up for discussion, but it seems that some sort of resolution should be adopted that is strong, clear and unequivocal on this measure, and let our Senators know exactly what we want—not what somebody else wants, but what we want, and I feel that some steps ought to be taken along that line. I thank you. (Applause.)

Dr. C. H. Davis: I had a talk with a brother of Senator Shields in Knoxville day before yesterday, and he assured me of the Senator's great desire to please the medical profession of the State of Tennessee. He said, however, that the Owen Bill had violent opposition on the part of those in authority, and just to save its face, he modified it, and hoped as a sort of entering wedge or stepping stone to have his bill introduced and modified then so that they would not recognize it. He asked me to write to Senator Shields a letter and tell him the wishes of the Knox County Medical Association, that I was speaking of then, and also of the profession in the State of Tennessee, and that he would conform to the wishes of the medical profession of the state to the best of his ability, and would even withdraw his own bill, if he thought that his constituents wished such a thing to be done. So whatever resolution we may, or may not, pass here has the automatic acquiescence of Senator Shields.

Dr. O. Dulaney: I would like to state this, in order to facilitate matters. We have a good deal to do. We have heard Dr. Haggard, and he has stated to us the purpose of the whole thing, and who is behind it. We realize the fact that we have two Senators who will do everything in the world that they can in the interest of the profession, and in order not to antagonize anything, and believing that their hearts are in the right place, I move you that the House of Delegates adopt a resolution of this kind: Suggesting to Senator Shields that he withdraw his bill, at least for the time being, until the profession of this state instruct him otherwise, and that we stand by the Owen Bill or fall by it. Now, gentlemen, the battle has got to be won in that way. After Dr. Haggard has explained it to us in such a manner, a man who has given as much time as he has in the interest of the Allies, and in the interest of our Government, a man who has made the personal sacrifice that he has, who has been in Washington for a long time and is certainly in a position to give us the information, we cannot as an Association afford to get out here and have any division at all. So I move you that we wire Senator Shields and Senator McKellar for the time being absolutely to stand by the Owen Bill until it stands or falls, and if it falls, then we will get behind him on his bill, or any other bill that can be introduced, provided it meets the wishes of the State Association.

Dr. Crook: I move to amend that by leaving out the words "for the time being."

A Delegate: I second the motion.

Dr. Crook: And I want to state in support of my motion that everything that Dr. Haggard has said is medical history.

Dr. Dulaney: I accept the amendment.

Dr. Crook: And just to reinforce it, I want to say that I do not understand how it is that this underground information has gone over the country that it is impossible to pass the Owen Bill. Now, the medical profession is not on trial. The medical profession has already shown its value in this war, and shown exactly what it is going to do. Now, let's put it up to Congress, and if they haven't enough ambition in their hearts to give us what we want, and do justly and fairly by us, let us fall, and let the indictment for that fall be placed where it belongs—on Congress.

Dr. Wingo: Mr. Chairman, I was with Dr. Gorgas in Panama, and know that he will do the right thing by the profession. I know him. As. Dr. Haggard says, he is a grand old man, and I, for one, am willing to stand by the Owen Bill or fall by it.

Dr. Miller: I want to say something in respect to Senator Shields' attitude. His first letter was that the bill was one that was capable of a good deal of misunderstanding, that it was not clear on a good many points, and he thought that, on that account, and some other people in the War Department, that the bill would not pass. That has been some weeks ago. Then he told me that he had introduced a bill to eliminate that uncertain quantity about it. I think the bill was the same otherwise. Dr. Haggard called me up over the phone and told me that it was not the bill that we wanted. Senator Shields had already told me that he feared the bill would not pass. I didn't know where the opposition was, except that Senator Shields said it was in the War Department. I sent Senator Shields a long telegram last Friday. I am not going to read all the telegram, but I am going to read a part of it. "We wish that you would have these bills taken from the committee and passed at an early date,' 'and then I go ahead and tell him how loyal the medical profession is, etc., and here is Senator Shields' telegram: "Your telegram concerning Owen Bill received. I am primarily—" Senator Shields is for whatever we want—going to do whatever we want done, and we must weigh carefully what we direct him to do for us. "I am primarily for this bill, and have been supporting it earnestly, but some time ago members of the profession, including Tennessee, came to the conclusion that it could not pass, and desired me to introduce one with somewhat different provisions, which I did." Now, I want the Doctor here to see what Senator McKellar says about the bill can't pass. When he reads you that telegram from Senator McKellar, then we will be prepared to act. The telegram continues: "Which I did. The understanding is that the War Department and the majority of the Committee on Military Affairs of the Senate are opposed to the Owen Bill, but would probably not oppose the one I introduced. But no action on either of these has been had. If it is the desire of the Medical Association of Tennessee, I will support the Owen Bill to the last, and withdraw the other. The medical profession has shown wonderful patriotism and self-sacrifice, and I believe it would be a most unjust discrimination not to enact some legislation of this character. I hope you will keep me informed of the wishes of my friends in Tennessee on the subject, and I will do all I can to effect it. " Senator Shields could not be any fairer than that.

Dr. Olin West: Mr. Chairman, Tennessee is in a very peculiar position in reference to this matter. We are going to take a step here this morning not only for the State of Tennessee, but for the nation. That is just where we are, gentlemen, because it is our own Senators that are leading in this matter. This is the first real expression in this crisis from any medical association in this country. There can be no question about Senator Shields 'attitude. Dr. Miller, I have a telegram, and everybody who has received a telegram from him has found in that telegram, "I want to do exactly what the medical profession of this state wants to do." So there is no question about that. My plea is this—that whatever we do here this morning, that it shall be done unanimously. (Applause.) That there shall be no dissenting vote, for I submit again that we are speaking not only for ourselves, but for the medical profession of the United States.

Dr. O. Dulaney: That is the purpose of my resolution, Doctor.

Dr. Marcus Haase: It would not be fair to the medical profession of Tennessee if I do not tell you just what the opposition to the bill was. The opposition to the bill, so far is—

Dr. West (interrupting): Will you allow me to ask who drew this bill, and who was present when it was drawn?

Dr. Haase: Senator McKellar drew this new bill, the Shields Bill. I am not keeping anything back from the medical profession of Tennessee. Dr. Burns said to me at the meeting of the Memphis and Shelby County Medical Association the other night, that he had heard that General Gorgas had laid down on the Owen Bill. Now, that is not true. I will tell you exactly what occurred.

Dr. W. B. Burns: Doctor, I mentioned to you what I saw in the public press. I said I didnt' believe anything of the kind.

Dr. Haase: Yes, Dr. Burns said that he did not believe that that was true, but would like to hear what was said. I also heard that stated in the corridors of this hotel here again. That was not true, gentlemen. What happened was this: Mr. Crowell, the acting Secretary of War, wrote a letter to the Military Affairs Committee of the Senate opposing the passage of the Owen Bill, and the only definite reason that he gave for it was this: That men coming into the Army from other corps were not given a higher rank than that of major. Now, how quickly that can be answered. The medical profession is not going into a new business when it goes into the Army at all. They are going to enter the same work that they have been doing in civil life. They are simply transferring their activities or service, if you please, from civil life to military life; but other men, in other corps, the engineers excepted, are learning a new profession altogether. That was the only objection that he had, gentlemen, insofar as the medical profession was concerned.

Now, where the papers got hold of the idea that the Surgeon-General had laid down on the Owen Bill was this: Mr. Dent, Chairman of the Military Affairs Committee of the House, had an engagement with Mr. Crowell on Friday afternoon, which was after the meeting of the Military Affairs Committee of the Senate, Friday. The Military Affairs Committee of the House was to meet Saturday morning. In discussing the matter with Mr. Dent, this matter of the Owen Bill came up the next morning before the Military Affairs Committee of the House, and Mr. Dent mentioned this and asked Mr. Crowley: "Is it true that this bill is coming up before you tomorrow morning?" He said, "Yes." He said, "Would you mind deferring consideration of it for a while?" Mr. Dent agreed that it would not be taken up the next morning, and Mr. Crowley sent the Surgeon-General word that it was not necessary for him to appear before the Military Affairs Committee of the House the following morning, and so he did not appear and the papers got hold of it, and, as usual, garbled the whole thing. That is as far as the Secretary of War's office is concerned.

The Committee itself seemed to be opposed to the bill for the following reasons: Dr. Haggard said that the Shields Bill was very pretty for the dentist. It is not nearly so pretty for the dentist as the Owen Bill. The Owen Bill does what the Shields Bill does not do. The Owen Bill will automatically give to the dentists two officers, a brigadier-general and a major-general, without any request from the Surgeon-General that this be done at all. The Shields Bill does away with that. Get that, now—that the Owen Bill automatically will create two dentist general officers, one a brigadier-general and the other a major-general So the Shields Bill does away with any such objection as that.

Number two is that, under the present law the President can appoint only as Surgeon-General of the United States Army a member of the regular Medical Corps, with the title of colonel—not below the rank of colonel. The Owen Bill allows the President—gives the President permission—he could ask for it and get it, of course—but gives him permission to select a man from the Reserve Corps in any rank and make him Surgeon-General. You see what it will do when it is known by the regular Medical Corps of the Army, what they will do at once. It will at once antagonize the Medical Corps against the Reserve Corps, and that was very much under discussion at the hearing of the matter.

Number three is that forty-six general officers—ninety-two general officers of the Reserve Corps were too many, and they were opposed to so many general officers in the Reserve Corps. It would have given them ninety two general officers in the general Medical Reserve Corps of the Army, and the Senate Committee was opposed to any such number as that. That was objection No. 3.

Objection No. 4 was that it cost too much. Those are the four objections that I heard discussed up there. There is a difference of over a million dollars in the annual cost of the Owen Bill and the Shields Bill, in favor of the Shields Bill. Now, it doesn't touch—the Shields Bill doesn't touch the rank of general officers. It gives you a number of colonels and lieutenant-colonels in the Reserve Corps. Under the present plan, the Reserve Corps cannot have a medical officer above the rank of major. The Shields Bill raises your rank to colonel and lieutenant-colonel, and does away with that objection to the Owen Bill. The Surgeon-General said that he was in favor of the Owen Bill—.

Dr. W. B. Burns: Yes, sir; that he was in favor of the Owen Bill.

Dr. Haase: But he also said that, if it is impossible to get the Owen Bill through—he told this to Colonel Noble and ——— ————— and myself, that if it was impossible to get the Owen Bill through he would support the Shields Bill.

Now, don't think for one moment that this great, big, white, clean man is opposed to the Medical Corps of the Reserve Army. He is not. He is doing everything he can possibly do to advance the Medical Corps of the Army, and he will agree on anything that will advance that corps in the service.

Now, as far as Senator Shields is concerned, Senator Shields wants to do anything the medical profession of Tennessee wants him to do, within his power. I read a telegram from Senator McKellar, a member of the Military Affairs Committee, who fears that it cannot pass, but Colonel Vaughn is here, and said a few minutes ago that he has heard from Senator Owen, and that the Owen Bill can pass, and there are ten out of the sixteen in favor of it.

Now, our Senators up there want to do everything they can for the thing, only they want something done. They don't want it to hang on. It has hung on now from last July up to today and nothing has been done with the matter yet, and they want something done, and done as soon as possible.

Here is an extract from a letter from Senator Shields, in which he says: "I am willing to support the Owen Bill if my friends in Tennessee desire it, but I agree with you that there is little hope of it being enacted into law, and it is better to advocate the one I introduced than make the total scheme fail."

Don't misunderstand Senator Shields or Senator McKellar. They are both going to do exactly as you want them to do, and I agree with Dr. West, that whatever we do here this morning, let it be absolutely unanimous and then stand back of it. But I feel, first, that I would like to know the serious objection to the Shields Bill, if there is any. I cannot see it, as far as we are concerned. It raises the rank of the Medical Reserve Corps, and all we can ever expect. So, as far as I can see, I cannot understand why we object to it. I am not favoring one bill over the other. I am serving to the best of my ability the medical profession in Tennessee, and that is all. So let us do this, in addition to the motion that is before the House, which I am not opposing at all, and that is, commend Senator Shields' activities in our favor.

Now, if there are any other questions that I might answer in reference to this matter here, I will be glad to do so, if I can. These were the objections that appeared in that committee that morning when the bill was up for discussion.

Dr. W. B. Burns: Mr. Chairman, since my name was mentioned by Dr. Haase, I wish to say that the reason the question was up for discussion in the Memphis and Shelby County Medical Association was that a few meetings before the Memphis and Shelby County Association passed a resolution supporting the Owen and Dyer bills, and to request Senator Shields and Senator McKellar and Congressman Hubert Fisher to support the bills, and the discussion was up on a reply to that resolution from Congressman Hubert Fisher, in which he said that he would be glad to support the bills, and understood that the President was for them.

It seems to me that this resolution ought to be properly and carefully framed, and I suggest to Dr. Dulaney that he ask for Dr. Haggard, probably, and one other on the committee to draft this resolution, and draft it carefully. And I ask the President, as an amendment to that motion, that Dr. Dulaney and Dr. Haggard and one other be appointed on that committee. It will take some time to draft it properly.

The Chairman: You want a committee appointed for that purpose, do you?

Mr. Burns: Yes, as an amendment to the motion.

The Chairman: Do I hear a second to that motion?

A Delegate: I second the motion.

The Chairman: It is moved and seconded that the Chair appoint a committee to draft this resolution in proper form.

Dr. Burns: Just put that as an amendment.

The Chairman: All in favor of that, let it be known by saying "Aye."

The motion was unanimously carried.

The Chairman: Oughtn't the resolution to be voted on? State your resolution again, Dr. Dulaney.

Dr. Dulaney: Gentlemen, it has just been stated that a careful resolution had not been introduced, but the sense of it was this: That we instruct Senator Shields and Senator McKellar to absolutely stand by the Owen Bill; that the profession in Tennessee wants to stand by that bill, or fall. After hearing Dr. Haggard make the remarks that he did in regard to the bill, and knowing that there was not any division whatever, and that he is in close touch with Colonel Gorgas and men who are doing things, and in accord with the strongest of the men who are officers in the army, then for Tennessee to have any division whatever would not do at all.

The Chairman: Are you ready for the question?

The motion was seconded and unanimously carried.

Dr. Olin West: Mr. Chairman, as Secretary of the Association, I have already sent Senator Shields a telegram of appreciation, thanking him for his attitude and efforts in this matter.

Now, I want to move that we adjourn until two o'clock this afternoon, as we have a great deal to do in the general session, and we have some very distinguished speakers to appear before us.

Dr. Burns: I suggest that the Chair appoint the committee to send this telegram to Senator Shields.

The Chairman: I appoint on that committee Dr. Richards, Dr. Farmer and Dr. Burns.

Dr. Burns: And appoint another committee to draw the resolution.

The Chairman: I appoint Dr. Haggard, Dr. Dulaney and Dr. Crook on that committee to draw up the resolution.

A motion was made, seconded and carried to adjourn the House of Delegates until two o'clock, p. m., and the meeting was accordingly adjourned.

AFTERNOON SESSION, APRIL 10, 1918.

The House of Delegates convened, pursuant to adjournment, at two o'clock, p. m., Wednesday, April 10, 1918, Dr. Jere L. Crook presiding, by request, in the absence of the President and Vice-President, when the following proceedings were had:

The Chairman: Gentlemen, you will please come to order. I think we should introduce a resolution of sympathy and have it sent up by a committee to our President, expressing our sorrow that he cannot be with us.

A motion to this effect was made and seconded and unanimously carried.

The Chairman: I appoint on that committee Dr. Haggard, Dr. Wingo and Dr. Albright, to go up there at the close of this meeting and tell Dr. Newell that the House of Delegates sends him its sympathy.

The Chairman: We will continue hearing reports of the committees. The first is the report of the Committee on Public Policy and Legislation.

The Secretary: We have that report and it will be made in a few minutes.

The Chairman: The next is the Committee on Scientific Work.

The Secretary announced that this report was to be found in the program of this meeting.

The Chairman: The next committee is the Committee on Memoirs.

The Secretary: Mr. Chairman, I have a telegram from Dr. Duncan Eve, who is chairman of the Committee on Memoirs, in which he says that it is "impossible for both Duncans to attend the meeting," and requests that the report be referred for publication. That is the usual procedure.

A motion was made and seconded that the report be referred for publication, and the motion was unanimously carried.

The Chairman: The Committee on Medical Defense.

The Secretary: The chairman, Dr. Miller, will be in and present it in a few minutes.

The Chairman: The Committee on Conservation of Vision.

The Secretary: The chairman of that committee is Dr. E. C. Ellett, who is now somewhere in France, I take it.

The Chairman: The next is the Committee on Public Health and Public Instruction. Is that committee ready to report?

The Secretary: There is no member of that committee present at this time.

The Chairman: The Committee on Cancer

Dr. W. D. Haggard: Mr. President, we havent' any report to make at this time. Our activities have been called upon in other matters, and I am frank to say to you, sir, that we have no report to make at this meeting.

The Chairman: All right, sir; your excuse is acepted. The next is the Committee on Education.

The Secretary: There is no member of that committee present.

The Chairman: The Committee on Social Insurance.

The Secretary: That committee will report through Dr. Krauss, who is going to present that subject in a rather exhaustive manner on the floor of the general session.

I would like to say, in connection with this matter, as was said by Dr. Haggard, practically every committee in this Association has been just as busy as possible for them to be with some kind of governmental work, and for that reason the committees have been practically inactive.

The Chairman: I think that is generally understood by the Association, that practically the only interests that we have, aside from doing what we can in our respective careers, is in connection with the war and its winning, and we do not expect the usual time that they have heretofore allotted to these things to be allotted to them, when so many matters of greater importance are before us.

At this time Vice-President Sullivan entered the meeting and resumed the chair as the presiding officer.

The Chairman: We will call on Dr. Haggard to present the report of the committee on the resolutions to be sent to Washington. Dr. Dulaney, the chairman, is not present. Will you please read that report?

Dr. Haggard thereupon read the resolutions drafted by the committee with respect to the support of the Owen Bill, the resolutions being in the words and figures following, to wit:

Resolutions Adopted by Tennessee State Medical Association in re. Owen Bill.

Whereas, Medical preparedness constitutes one of the largest phases of the program of national preparedness on which the nation has set to work, and

Whereas, The medical profession is called upon to give, and is giving, more liberally of its resources for Army service than any other single group of the nation's citizenship, and doing so without complaint, the medical profession having to date furnished a larger percentage of its group between the ages of 22 and 55 than the registrants under the selective service law between the ages of 21 and 31; and

Whereas, 479 of Tennessee's 3,028 doctors had, up to March 31st, offered and been accepted for appointment in the Medical Reserve Corps for service whenever and wherever needed; and

Whereas, It is recognized as being to the best interests of the Army that medical men should have rank commensurate with the importance of their duties and responsibilities as officers; and

Whereas, The Owen Bill (Senate Bill No. 3748) and Dyer Bill (H. R. No. 9563) have been carefully considered and endorsed by those most competent to pass judgment on such questions, among whom are the Surgeon-General of the Army and the President of the United States; and

Whereas, This bill has been published widely over this country, and has been endorsed by organized medicine; therefore be it

Resolved, That the Tennessee State Medical Association, through its House of Delegates, endorses the Owen and Dyer bills on this subject. Be it further

Resolved, That the Legislative Committee of this Association be instructed to take the necessary steps to place the wishes of the physicians of this state before each member of Congress from Tennessee in reference to this bill, and to keep this Association advised, through the columns of the Journal of the Association, of the status of this much-needed measure.

A Delegate: Mr. Chairman, I move that the resolutions be adopted.

The motion was seconded and was unanimously carried.

The Chairman: The next is the Committee on Medical Defense.

Thereupon Dr. S. R. Miller, chairman of the Committee on Medical Defense, submitted the following written report:

Report of Committee on Medical Defense.

April 8, 1918.

To the House of Delegates, Tennessee State Medical Association:

Mr. President and Gentlemen—We, your committee on Medical Defense, beg to submit the fourth annual report, covering the year 1917.

We received Medical Defense fees from 850 members. Thus far in 1918 we have received the fees of 702 mmbers, as against 726 on April 2nd, last year.

These figures, giving each county in detail, are set forth in "Exhibit A," hereto attached.

In 1917, seven suits were referred to your committee and seven suits were at issue from 1916, making a total of fourteen. Defense in two of these was declined for the reason that the member had not paid the assessment fees at the time of the alleged malpractice. Of the twelve remaining, our counsel has won three and non-suit has been taken in three, thus leaving six at issue. Since the first of 1918 three suits have been referred to us. This makes nine suits now pending—five in Shelby, two in Davidson, one in Knox and one in Washington County. Another threat has just come from Bedford County. One of the nine pending suits has probably been thrown out of court in the last week on account of inability of the plaintiff to secure counsel.

Since the beginning of your committee's work, three of your members who have been unfortunate defendants have proven their high standing as physicians of ability and men of integrity in their respective communities by the fact that the plaintiff could secure no counsel to prosecute their case. It appears that the regular respectable members of the legal profession are looking upon these suits with less favor than in former years, and their careful investigations are proving them with as little merit as malpractice suits against the legal profession.

In all pending cases we have reason to believe that each will terminate in vindication of the member's ability, skill and professional care of his patient.

The moral influence of the united membership of this Association is undoubtedly having a wholesome influence for the good of the profession and of each community.

Last year there was a gain of 156 members who availed themselves of this protection, but almost fifty per cent failed to do so, and many who did lost a considerable portion of the year by tardy payment.

We want to urge the secretaries and every member to attend to this more promptly. Several have had to pay personally large attorney fees because of this neglect or indifference., Perhaps the majority pay their fee after March 1st, thus denying themselves two months, or one-sixth of the year's protection. This should be obviated in some way, but it is not within the function of this committee to do so.

S. R. MILLER, *Chairman;*
JERE L. CROOK, *Treasurer.*

EXHIBIT "A."

List of Counties, Number Paying For Medical Defense.

County.	1915	1916	1917	1918
Anderson	13	11	10	8
Bedford	15	15	15	11
Blount	2	1	4	3
Bradley	0	0	4	0
Campbell	2	1	3	0
Carroll	19	10	8	7
Chester	0	0	0	0
Cocke	0	0	0	0
Coffee	0	4	7	6
Crockett	0	0	0	0
Cumberland	5	6	3	0
Davidson	129	136	156	147
Dickson	2	3	4	6
Dyer	16	23	21	15
Fayette	1	2	2	1
Franklin	5	8	0	4
Gibson	20	22	21	21
Giles	19	21	20	11
Greene	2	3	5	5
Grundy	8	8	5	4
Hamblen	9	15	17	14
Hamilton	17	20	21	22
Hardeman	1	0	0	0
Haywood	9	4	4	0
Henderson	4	3	10	7
Henry	1	3	4	5
Hickman	1	0	5	0
Jackson	12	12	8	7
Jefferson	16	16	13	13
Knox	61	68	76	62
Lake	1	3	2	0
Lauderdale	1	2	29	21
Lincoln	14	14	10	4
Loudon	1	2	1	1
McMinn	1	0	0	0
Macon	0	4	2	6
McNairy	5	13	11	10
Madison	29	29	32	24
Marshall	16	13	8	12
Maury	1	2	3	4
Monroe	10	11	12	11
Montgomery	6	9	10	9
Obion	7	4	2	8
Overton	8	0	6	6
Polk	0	0	0	0
Putnam	18	13	7	10
Rhea	6	9	2	3
Roane	10	7	10	8
Robertson	7	11	7	0
Rutherford	0	5	0	2
Scott	0	9	8	0
Sevier	0	0	0	2
Shelby	67	33	156	112
Smith	0	0	0	0
Stewart	0	0	0	0
Sullivan, Carter, Johnson	5	2	3	0
Sumner	13	9	9	12
Tipton	11	20	18	12
Unicoi	0	0	5	0
Warren	4	2	2	2
Washington	13	16	17	14
Weakley	11	13	6	9
White	14	12	12	12
Williamson	7	7	9	5
Wilson	4	5	5	5
Total	680	694	850	703

REPORT OF TREASURER OF COMMITTEE OF MEDICAL DEFENSE

Balance on hand April 1, 1917	$1,181.20
Receipts during year	847.00
Total	$2,028.20
Disbursements, attorneys' fees, stenographic work and incidentals	$ 808.65
Balance on hand April 1, 1918	$1,219.55

JERE L. CROOK, *Treasurer.*

Dr. Jere L. Crook: Mr. Chairman, I think that this report of the Treasurer be an addenda to that—that my statement as Treasurer be pinned to it as a part of the report. I will just state that on the first of April, 1917, second of last April, we had $1,181.20 in the treasury; during the year there was paid out for attorney's fees and stenographers' bills and other minor expenses amounting to $808.65. Now, the balance on hand on April 1 is $1,219.55, which is a slight gain over last year.

The Chairman: You have heard the report of the Committee on Medical Defense, and what is the action of the House in regard to it?

Dr. Olin West: Mr. Chairman, I move that this report be received and that the committee be continued, with thanks for the very valuable service that they have rendered to the members of this Association, for I know what has been embraced in the work that has been done by this committee.

The motion was duly seconded and unanimously carried.

Dr. Olin West: Mr. Chairman, in this connection I would like to make this statement: That the county secretaries, a great many of them, continue to send the Medical Defense assessments to the state secretary. It so happens that, in the line of my duties, I am away from my office for days at a time, and sometimes there may be delays in the checks being forwarded to Dr. Miller. Immediately when I get back I indorse the checks and enter them up and send the Treasurer's check to Dr. Miller. As I say, that involves a delay, sometimes of a week. It should be that the Medical Defense assessments should be immediatey and directly sent by the county secretaries to the chairman of the Medical Defense Committee at Knoxville. This will obviate any possibility of a man being unprotected for that time that may have elapsed.

The Chairman: The next is the report of the delegates to the American Medical Association.

The Secretary: Mr. Chairman, Dr. Richards was in the room a moment ago, and Dr. Bromberg, the other delegate is not present.

The Chairman: Maybe Dr. Richards will be back. The next is the report of Councilors.

The Secretary: I hope the House of Delegates will agree to make that matter a special order of business at the next session, inasmuch as the Board of Councilors has not met. A meeting of the Board of Councilors is called for immediately after the adjournment of this meeting. I make a motion, Mr. Chairman, to that effect.

The motion was seconded by Dr. Jere L. Crook and carried.

The Chairman: The next is the report of the Board of Trustees.

Dr. C. J. Broyles: Mr. Chairman, the Board of Trustees has not had a meeting yet, and it will be arranged and I hope that you will defer our report.

The Chairman: Well, we will just defer both of those reports.

Now, the next is new business. Is there any new business?

Dr. A. B. DeLoach: Mr. Chairman, a matter has come up in every association of the state, and with special reference to our Association I can speak about the dues of our men who have gone to the colors. It was unanimously passed in the last meeting of the Shelby County Medical Society that a suspension of all dues of all men who are now with the colors should be made, and I am going to ask that this Association take some steps with regard to the suspension of dues of the State Association. I would like to hear the views of other gentlemen on that subject.

Dr. Jere L. Crook: Mr. Chairman, my county has paid the dues of the men who have joined the colors. We have five now, and have already paid their dues. We have paid the state dues.

I thought perhaps, like Dr. DeLoach, that it might be well to take it up here, but when we begin to contemplate the suspension of dues of the State Association, we should consider the fact that we deprive the Journal and the State Association proper of a very essential revenue that might be borne by the individual county associations. I do not think that we should allow the State Association to bear that loss as a whole, and I think that the proper solution of this is for each county association to take care of the dues of its own members and to remit to the State Association.

Dr. Wingo: Mr. Chairman, I wish to state that our association has two men that have gone to the war, and we have paid their dues. I do not see how the Journal can afford to do without all the funds that we have. I do not think that we should demand that of them. I, for one, speaking for my county, would rather we would send the dues in, and not embarrass the Journal.

Another Delegate: Our association did the same.

Dr. DeLoach: Mr. Chairman, I would like to say this: That the action of our society was not inspired by anything in the world but patriotism in the matter. We were not thinking about the revenues that would accrue to the treasury, but simply to show in a small way our appreciation of the patriotic service of our brothers. I want that distinctly understood. The Memphis and Shelby County Medical Association is always willing to do the right thing by its brothers.

Dr. Crook: We know that, Doctor.

Dr. Olin West: I will say, in this connection, that practically every county—almost every county association in the state—has taken action similar to that reported here from Madison and Weakley Counties. In our own association at Nashville, we have paid all dues, even including the medical defense assessments, of every man who is in the service. We felt that it was incumbent upon us to do that, because, in view of the disturbed condition of affairs, it is really going to be difficult to secure the needed funds to carry on the activities of the Association. And so far as the medical defense fund is concerned, we thought that it was a very small contribution for us to make, in view of what may be involved in the departure of a relatively large number of our members, and in respect to that fund also. Now, we are bound to suffer a considerable decrease in numbers this year. At the present time I am very glad to report that the enrollment is almost up to normal, but that has been brought about by very zealous and earnest insistence and activity on the part of the county secretaries and the councillors, and by the everlasting nagging of the State Secretary. I doubt very seriously if we will come with two hundred of our last enrollment. Of course, this means quite a decrease in the membership of the Association.

Dr. J. W. Sanford: Mr. Chairman: I would like to know if there is any gentleman here from the fifth congressional district.

The Secretary: Yes, sir; Dr. Ray. What is your district, Dr. Ray?

Dr. Ray: Fifth.

Dr. Jere L. Crook: Mr. Chairman, I move that we adjourn. It is time for the next session in the assembly room.

The Secretary: Mr. Chairman, I am requested to announce before adjournment that the Board of Councilors want to meet here a few minutes after adjournment to organize and get their reports in shape for presentation.

Dr. A. B. DeLoach: Before we adjourn, I wish you would advise the House of Delegates that our little smoker will be held at 8 o'clock.

The Secretary: At 8 o'clock in the Assembly Hall?

Dr. DeLoach: Yes, sir.

Dr. S. R. Miller: Mr. Chairman, I would like to suggest that it would be a good plan to submit this resolution with reference to the Owen Bill to the general session in the other room, in order that it may be passed upon by the general session and go forward to Washington with the announcement of the approval of the general session of the Tennessee Medical Association; with the announcement of their unanimous approval of it—of the action of the House of Delegates on this matter.

It was thereupon moved and seconded that Dr. W. D. Haggard read to the General session, to be convened at 3 o'clock, p. m., on this day, the resolution adopted by the House of Delegates with respect to the Owen Bill, and ask the unanimous approval of the general session thereof, and that the resolution be forwarded as having been approved by the general session of the Association. The motion was unanimously carried.

The motion to adjourn was seconded and the meeting was accordingly adjourned until 8:30 o'clock, a. m., Thursday, April 11, 1918.

MORNING SESSION, THURSDAY, APRIL 11, 1918.

The House of Delegates convened, pursuant to adjournment, at 8:30 o'clock, a. m., Thursday, April 11, 1918, when the following proceedings were had:

The Chairman: The meeting will come to order.

The first order of business this morning is the hearing of the report of the delegates to the American Medical Association.

The Secretary: Mr. Chairman, I believe that both delegates are gone. Dr. Richards is gone, and Dr. Bromberg has not been here.

The Chairman: Well, the next is the report of the Councilors.

The Secretary: Mr. Chairman, I have the report of the Councillors, so far as any report has been made. Dr. Dancey is here and has his report for the Eighth District.

The meeting of the Board of Councilors held yesterday afternoon developed the fact that only a few of them had been able to secure reports from the individual county secretaries. This is altogether due to present conditions. It is in this, just as it is in everything else. The war has the grip on the attention of men everywhere. Dr. Beasley of the Sixth District, and Dr. Miller of the Second District, are the only ones who have formal reports. Dr. Dancey has his report with him, and Dr. Griffin of the Ninth District has sent in his report, which shows a very satisfactory condition of affairs. There is only one county in West Tennessee that is not organized. Most of the facts in the report of the Councillors were brought out in the Secretary's report, which was read yesterday. Dr. Miller has a very complete report for the Second District.

REPORT OF COUNCILLORS.

Seventh District—M. A. Beasley, Councillor.

The Maury County Medical Society, in the year 1917, had 36 members enrolled, held 9 regular meetings, with 8 scientific papers read and one meeting devoted to case reports. The average attendance was 10. Three new members were added during the year. Two members dropped out.

One member, Dr. J. G. Williamson, Jr., one of our most estimable and worthy young men, died during the year.

The Dickson County Medical Society, with 13 members reported for 1917, had a meeting each month, with an average attendance of 12 and with a scientific paper read at each meeting. The membership of the Dickson County Society is at present 19.

It is to be regretted that no reports could be secured from other counties in the district. The Seventh District is made up of Houston, Humphreys, Dickson, Hickman, Williamson, Lewis, Maury, Giles, Lawrence and Wayne counties. Of these, Houston, Humphreys, Lewis and Wayne are not organized.

Ninth District—R. W. Griffin, Councillor

The Ninth District is composed of Gibson, Weakley, Obion, Lake, Dyer, Lauderdale, Haywood and Crockett counties. All of these counties maintain medical societies and most of these societies are well organized and active. . The number of members in each society for the year 1917 is here given: Gibson, 25; Weakley, 18; Obion, 29; Lake, 8; Dyer, 33; Lauderdale, 29; Haywood, 10; Crockett, 12. Total membership for district, 164.

The total membership in the Ninth District in 1916 was 149, a gain of 15 having been recorded in 1917. Losses occurred in Gibson, Lake, Dyer and Haywood, while gains were recorded in Weakley, Obion, Lauderdale, and Crockett, the last-named society having been inactive in 1916.

Second District—S. R. Miller, Councillor.

County.	Legalized Practitioners in County.	Members.	Eligible Non-Members.	Meetings in Year.	Scientific Papers Read.	Average Attendance.	New Members.	Members Died.	Members Living and Dropped.	Defense. Paid Medical	Service With Flag.
Anderson	10	8	5	10	12	6	0	0	5	*	2
Blount	28	15	13	12	7	6	2	1	0	*	2
Campbell	..	..	..	..	..	..	..	..	..	*	..
Hamblen	..	..	..	..	..	..	..	..	..	*	..
Jefferson	25	13	12	4	8	10	0	0	0	*	0
Loudon	16	7	0	6	2	6	0	0	4	*	1
Knox	160	112	22	51	48	23	4	4	0	*	16
Roane	30	19	9	10	15	10.3	3	1	0	*	2
Scott	..	..	..	..	..	..	..	..	..	*	..
Union	..	..	..	..	..	..	..	..	..	*	..

---

*See Report of Committee on Medical Defense.

Eighth Councillor District.

Counties.	Physicians in County.	Number in Society.	Eligible Non-Members.	No. of Society Meetings.	Attendance Average Number.	No. of Scientific Papers.	No. of Visits of Councillor.
Benton	..	**	..	..	..	..	..
Carroll	**	..	..	..	..	..	..
Chester	13	9	1	12	6	..	0
Decatur	**	..	..	..	..	..	..
Hardin	**	..	..	..	..	..	..
Henderson	26	22	0	12	**	0	1
Henry	**	..	..	..	..	..	.
McNairy	**	..	..	..	..	..	..
Madison	53	34	6	52	15	40	40
Perry	*	..	..	..	..	..	..

---

* Not organized. ** No. report.

It was moved and seconded that the reports of Councilors as submitted be accepted, and the motion was carried.

The Secretary: Mr. Chairman, I would like to say in this connection that I have tried for four years to get the facts relative to the number of non-eligible physicians in the various counties, and it is almost impossible to get them. Through the work of Dr. Shoulders and the cooperation of the men in the various counties, we are now in a position to state accurately the number of physicians in the state, their ages and their adaptability for war service, but with reference to their eligibility we have nó information that is worth the paper that it is written on. Now, that would be a very valuable thing for us to know—how many men there are that are ineligible to membership. For instance, in the twenty-eight unorganized counties we have been able to ascertain the fact that there are 287 physicians, but there is no way for us to know how many of those are eligible for membership. Consequently, we are not able to ascertain or calculate how many men we ought to have in the Association and that we could have that we have not got. If we had that information, it is possible that we might get a very much larger percentage of the profession as a whole into the organization. I would be very grateful if, when you go home, and happen to have a minute or two to do it, that you would send to the Secretary's office this information about your own individual counties.

A Delegate: I would like to inquire what constitutes ineligibility.

The Secretary: That is a matter to be determined by each individual component society.

The Delegate: Who is going to determine it? If he is a licensed practitioner of medicine, I take it that he would be considered as eligible, provided his moral standing is all right.

Dr. J. W. Sanford: I think every county secretary in the state, and all the counties organized can do that in a very few days 'time. I know every man in my county. We have got thirty-two doctors in our county, and twenty-eight of them are eligible. We have two on the dope route, and have two men that are worn out.

A Delegate: The worn-out men are all right.

Dr. Sanford: Yes, sir.

The Secretary: To show you how that works out, of the thirty-two men in Lauderdale County, twenty-three have already been reported as members of that county society. When Dr. Sanford was Secretary, I think he had twenty-eight of them in, didnt' you, Doctor?

Dr. Sanford: Had thirty.

The Secretary: Practically every one. He knew exactly the situation. As Secretary of the Association, I frequently am solicited by men to secure their enrollment as members. I cannot do that. I cannot insist on a man coming into the Association when I do not know the local conditions, but I could handle it much better if I knew about the eligibility or ineligibility of these men.

Dr. J. C. Brooks: Mr. Chairman, it seems to me that the lack of reports is due frequently to the secretary's ability to size up and determine whether a man is eligible or not. I know in Chattanooga we have a lot of fake doctors. We have doctors that come there that possibly might be eligible, if they were handled in a proper way, and it seems to me that this lack of reports is due to inefficiency of the local organizations. I think that if every society had a board of censors, or you might call them investigators, that when a man comes into the locality, can size him up and report to the association, that would give the secretary the information so that he may report to the Secretary of the State Association. I know it would help out a great deal.

The Secretary: I have had a man, since this meeting started, to tell me that he was very anxious to get into the Association. I told him that I was very busy right then and would see him in a few minutes. I went to two gentlemen from the county in which he lives, and they told me they did not want him in their society. Certainly he could not get in the State Association.

A Delegate: You will find one thing on this proposition, and that is probably the secretary of the association may have some personal grievance against some one, and he would report him as ineligible. We have a couple of men in our county who are eligible to membership in the association, that the secretary and the president have both fought against and tried to keep out of the association. There may sometimes be some personal equation in it.

Dr. Sanford: Well, if a man has a personal grievance against a man, that is no reason why he should be kept out of the association. There isnt' anybody that I have a grievance against, but if there was, I would not allow that to influence me. The secretary ought to bury all of that. That is the only way you can build up an association. In fact, you ought to get rid of that secretary and elect a new one. That fellow has got a yellow streak in him, anyhow, and we dont' need him—a man who would do a thing like that.

Dr. W. B. Burns: Mr. Chairman, I will say to Dr. West that our association will make an effort at the first meeting to take this matter up and find out the ineligible members in Shelby County.

The Chairman: The next order of business is the report of the Trustees.

Mr. C. J. Broyles: Mr. Chairman, the Journal, as you know, has been conducted—without speaking of how it has been conducted, you all know the character of the Journal that our Secretary gets up. He has considerable trouble in getting material, due practically altogether to the fact that probably fifty per cent of the contributors to the program do not hand in their essays.

Financially speaking, the Association is in good condition, out of debt, except some running accounts that have accrued since the first of the month. They will be paid on presentation. The receipts of the Journal generally have been greater this year than any other year before. But, of course, there is an increase in the cost of everything—

The Secretary (interrupting): Pardon me, Dr. Broyles, just a little bit less. You are mistaken about that.

Dr. Broyles: Well, probably so. I have not seen the figures. I am reminded, Mr. Chairman, that I am under oath. I have to tell the truth, but I dont' have to tell the whole truth. The character of the Journal, as you know, is excellent, and stands well among the sisterhood of state journals. We consider the general condition most excellent.

The Chairman: You have heard the report of the Trustees. What is the pleasure of the House in regard to that?

It was moved and seconded that the report be received. The motion was carried.

The Chairman: The next is the report of the Committee on Nominations.

Dr. J. W. Sanford: What has become of our Auditing Committee?

The Secretary: The books have been examined and the report is signed. Dr. Scott Farmer, one of the Auditing Committee, is present. Doctor, will you make that report?

Dr. Scott Farmer: The books were examined and audited and found to be correct.

The Secretary: The report has been signed by two of the members of the committee, but has not yet been signed by the third member.

The Chairman: What is the will of the House in regard to the report of the Auditing Committee?

A Delegate: I make the motion that the report be accepted, and that the committee be discharged, and that the report be spread upon the minutes.

The motion was duly seconded and carried.

The Chairman: Now, is there any new business?

Dr. O. Dulaney: In the absence of Dr. Nash and Dr. Haskins, who are secretary and chairman of the Nominating Committee, I was asked to make the report.

For President we have nominated Dr. Richmond McKinney of Memphis, Dr. E. O. Cherry of Newbern and Dr. W. C. McRee of Trenton.

For Vice-Presidents, Dr. W. H. Tucker of Halls for West Tennessee, Dr. Horace Farrar of Hillsboro for Middle Tennessee and Dr. A. G. Kern of Knoxville for East Tennessee.

For Secretary, Dr. Olin West.

For Trustee, Dr. C. J. Broyles of Johnson City.

For Councilors: For the First District, Dr. C. P. Fox of Greenville; for the Third District, Dr. A. F. Richards of Sparta; for the Fifth District, A. E. Ray of Tullahoma; for the Seventh District, Dr. M. A. Beasley of Hampshire; for the Ninth District, Dr. J. W. Sanford of Ripley.

For Delegate to the American Medical Association: Dr. E. T. Newell of Chattanooga, and for Alternate, Dr. G. B. Gillespie of Covington, Tenn.

The Secretary: The election is by ballot.

The Chairman: We will vote first on the President.

The Secretary: The gentlemen nominated fo President—the committee is required to nominate three men—are Dr. Richmond McKinney of Memphis, Dr. E. O. Cherry of Newbern and Dr. W. C. McRee of Trenton.

The vote for President was acordingly taken by ballot, resulting in 21 votes, 18 of which were for Dr. Richmond McKinney and three for Dr. McRee.

Dr. C. J. Broyles: I move that the secretary be instructed to cast the unanimous vote of this House of Delegates for the election of Dr. Richmond McKinney for President.

A Delegate: I second the motion.

The motion was unanimously carried.

The Secretary: It gives me pleasure to cast the unanimous vote of the House of Delegates for Dr. Richmond McKinney for President.

The candidates nominated for Vice-President are W. H. Tucker of Halls for West Tennessee, Horace Farrar of Hillsboro for Middle Tennessee, and A. G. Kern of Knoxville for East Tennessee.

Mr. J. W. Sanford: I make a motion, Mr. Chairman, that the Secretary cast one vote for these three nominations for Vice-President, for the House as a whole.

The motion was duly seconded, and unanimously carried.

The Secretary: It gives we especial pleasure to cast the unanimous vote of the House of Delegates for Vice-Presidents for Dr. W. H. Tucker of Halls for West Tennessee, Dr. Horace Farrar of Hillsboro for Middle Tennessee, and Dr. A. G. Kern of Knoxville for East Tennessee.

The next nomination is that of Dr. C. J. Broyles of Johnson City, for Trustee.

The Chairman: The Trustee is Dr. C. J. Broyles of Johnson City, the Doctor's term having expired.

A Delegate: I move that the Secretary cast the vote of the House for Dr. Broyles as a whole.

The motion was duly seconded and unanimously carried.

The Secretary: Mr. President, I take very, very great pleasure in casting the vote of the House of Delegates for Dr. C. J. Broyles for Trustee.

Dr. Dulaney: Mr. Chairman, I move you that the Chairman cast the vote of the entire House of Delegates for Dr. Olin West for re-election as Secretary.

The motion was duly seconded and unanimously carried.

The Chairman: It affords me a great deal of pleasure to cast the unanimous vote of the House of Delegates for Dr. Olin West, for Secretary of the Tennessee State Medical Association.

The Secretary: Mr. Chairman, the nominations for Councilors are: For the First District, Dr. C. P. Fox of Greeneville; for the Third District, Dr. A. F. Richards of Sparta; for the Fifth District, Dr. A. E. Ray of Tullahoma; for the Seventh District, Dr. M. A. Beasley of Hampshire; for the Ninth District, Dr. J. W. Sandford of Ripley. That is a pretty good bunch of Councillors.

Dr. L. A. Yarbrough: I move you, Mr. Chairman, that these Councilors nominated be elected by the Secretary casting the vote of the entire House for them.

The motion was duly seconded and unanimously carried.

The Secretary: Mr. Chairman, I cast the vote of the entire House of Delegates, with the usual good pleasure, for Councillors Dr. C. P. Fox of Greeneville for the First District, Dr. A. F. Richards of Sparta for the Third District, Dr. A. E. Ray of Tullahoma for the Fifth District, Dr. M. A. Beasley of Hampshire for the Seventh District, and Dr. J. W. Sanford of Ripley for the Ninth District.

I think that is a splendid array of Councillors.

The next nomination is for Delegate to the American Medical Association, Dr. E. T. Newell of Chattanooga.

Dr. J. W. Sanford: I make a motion that the Secretary cast the vote of the entire House for Dr. Newell as Delegate to the American Medical Association.

The motion was duly seconded and unanimously carried.

The Secretary: I am very much gratified to cast the vote of the House of Delegates for Dr. E. T. Newell as Delegate to the American Medical Association.

It has been one of the greatest deprivations that we have had at this meeting that Dr. Newell has been unable to attend the meeting. I am glad to say that last night he seemed to be considerably improved.

The next nomination is for Alternate Delegate to the American Medical Association, Dr. G. B. Gillespie of Covington.

Dr. J. W. Sanford: I move, Mr. Chairman, that the Secretary cast the entire vote of the House of Delegates for Dr. G. B. Gillespie as Alternate Delegate to the American Medical Association.

The motion was duly seconded and unanimously carried.

The Secretary: Mr. Chairman, at the first medical association I ever went to in Tennessee, the first man I saw there was Dr. G. B. Gillespie, and I have seen him at every single one, I think, since. That has been more years ago than I like to think about. I take great pleasure in casting the vote of this House of Delegates for Dr. G. B. Gillespie as Alternate Delegate to the American Medical Association.

Mr. Chairman, unless there is some new business, that concludes the business of the House at this meeting.

Dr. W. B. Burns: Mr. Chairman, we were talking last night about the question of taking care of the men who are in the service of the nation. I wrote a resolution and gave it to Dr. West yesterday, and he said that Dr. DeLoach had mentioned it, but that inasmuch as a great many other counties had taken care of the situation, he thought that Dr. DeLoach had dropped it. I am just rising to say that if we can arrive at some feasible means of taking care of the doctors, I would be glad that we do so. It is possible, of course, for every county association to remit the dues of those who are in the service and carry them in good standing. I understand that the expenses of the Journal and the expenses of the Association are so great that this cannot be done by the State Association, but I wonder if we could arrive at some feasible plan to take care of this proposition, or whether it shall revert to the local associations entirely. Of course, we are perfectly willing to pay for our men. Dr. Gallagher and Dr. Miller, here in conversation last night, wondered if that would answer, and I would like to ask for information, without a motion, from Dr. West what he thinks about that—what can be done, and what should be done, to help the situation, by the State Association, and still keep out of debt. And I think Dr. Miller has something to say about the question we were talking about last night. Do you want to introduce a resolution, Doctor?

Dr. S. R. Miller: Mr. Chairman, I want to offer a resolution. I will say that I have discussed this matter with the secretary and with the treasurer, and with several other members of the Association, and have tried to find the best plan to take care of our men who are in France. We do not want them to be dropped from our list. Some of them will never come back, probably. We do not want them to fall in France and not be members of the Tennessee State Medical Association. If we leave it to the county associations, we appreciate the fact that some of them are going to neglect this. One society in Bedford County has nearly fifty per cent of its members in the service—

The Secretary: Maury County.

Dr. Miller: Another county has forty per cent. This county has a great number. Davidson County and Knox County, too. Davidson County has already paid for theirs, and Dyer County has paid for theirs, and some other counties. This county will, I understand, do so at the next meeting. In Knox County it is provided that it shall be done that way. But the question now is, whether we will pay it—whether this Association will sustain it or have what some of them call a liberty fund of this Association; let it be a voluntary subscription of $1.00 or $5.00 or $10.00, and we might raise more than enough to pay their dues and thus have possibly money for some other purpose. We want it as a memorial, or something of that nature, to those who fall, but the meeting is so nearly closed now that we do not believe that that could be carried through. The Secretary and Auditor and Treasurer tell me that the Journal cannot possibly be maintained on a high basis without this $800 from the four hundred men who are possibly now in active service, and so I offer this resolution:

Whereas, About 400 members of the several component county societies are now in active service with our fighting forces; and

Whereas, These members cannot occupy themselves in keeping up their annual dues, but are worthy, honorable and patriotic members; and

Whereas, The State Medical Association cannot be maintained on a high plane without the revenue to be derived from our full membership; therefore be it

Resolved, That each component county society be requested to keep on the membership rolls the names, and to pay to the State Association the annual dues of each member in good standing who shall be called, or who has been called, into active service with the flag.

That is the resolution that I want to offer. That is about the only way we can get it through, and if the Secretary will write to the secretary of each county association, and then publish it in the Journal, I think we can do that. In Knox County we are paying high rent, and our rooms are used by the exemption board, and we have not dues enough to pay for our annual expense, and the only way for us to do that is for a lot of us to go in and contribute $5.00 extra, and that makes up the deficit of our county association. We raised the dues once to $7.00, and that remained for about two weeks, and a few of the members got out there and changed it. And these other associations are going to have a hard time doing it. We want to keep this on foot.

Dr. J. W. Sanford: I second Dr. Miller's resolution.

Dr. W. B. Burns: Mr. Chairman, for the last five years the Memphis and Shelby County Medical Society has used the criminal court room here. We stumbled upon that by remembering that most of the county societies met in the county courthouse, and we thought we would ask the county commissioners, and they permitted us to do it. We do not have any rent to pay. We have about $100.00 left from the Southern Association meeting, which I propose to insist on giving at this time. I do not think it would be a hard job for us. I want the Secretary to report our members in good standing. I would like to ask when he makes his report to the American Medical Association.

The Secretary: Right immediately; as soon as I get back home.

Dr. Burns: We can arrange this in the next four or five days, and we will let you know before you report. We want our members to go up as paid up members, and I will assume the responsibility of that. It is just a matter of pure dereliction that it has not been done before. Everybody seemed to overlook it, but we intend to keep our members in good standing, and I am heartily in favor of this resolution.

Dr. M. A. Beasley: Mr. Chairman, Dr. Miller, in his reference to the county that had fifty per cent of its enrollment on the list, made a mistake or oversight in stating that it was Bedford County. It is Maury County that has fifty per cent of its enrollment on the list. And I want to put this proposition before the House in justice to myself as the representative of our society. All of these men who are in the service, except one, have paid their dues for the present year. Dr. H. P. Fawcett, originally of West Tennessee, a brilliant young man, now of Columbia, had not done so. Now, how am I going to settle the mater between these men if I take this action?

Dr. J. W. Sanford: It is purely a matter with each county association. We will have a thing to come up in our county that we will have to take care of. We have some young men that graduated last year. They have been in ever since they graduated, and we have some more that graduate this year. We have a man that graduated two years ago that belongs to our association, and he paid his dues for last year and this year. We will take care of that. I think each county can take care of its own men.

Dr. J. C. Brooks: I am a delegate from Hamilton County, and if there is a motion before the House without a second, I would like to second the motion to adopt Dr. Miller's resolution. We have between twenty and thirty of our members in the service. I do not know how many, but we are not acepting their fees. We are remitting the local fees, and in addition to that, if I am not mistaken, the secretary told me that he had remitted $2.00 to the State Secretary. Now, we feel that we can afford to do that, notwithstanding the fact that we are located near Chickamauga Park, and within the last few months the medical association has contributed about $800 to the support of different things at the park. We are just now making up a fund of $500.00 to help equip some rooms out there at Camp Greenleaf. A few months back, we made up a fund of $30.00 to help equip and furnish tables and tableware and linen for the doctors, and while these things are a little burdensome, we have to contribute. We just announced in our society that we needed money. We have not accepted any fees from our members who are in the service. Our members come across liberally and give $5.00 to $10.00 every time anything comes up, and in justice to our county, I want to say that is perfectly satisfactory to us.

Dr. West: In behalf of the various counties, I want to say that nearly all of the counties in the state have already provided for the payment of their state dues for members who have gone into the service. In our county, Davidson, we have paid the dues of all the men, and even the Medical Defense assessments of those who have gone. And nearly all of the counties have done so. For the Association I want to say there is no question but that this association would be delighted to assume the dues of all men who have gone into the service, if it were possible to do so and maintain even the ordinary activities of the Association.

I should be very glad to accept a reduction in salary if the Association sees fit to make it. As a matter of fact, I have been called on for a great many expenditures, and I have made them. I have taken great pleasure in making them out of my salary as Secretary of the Association. Without this salary I could not make them. I will say, but I would be very glad to accept a reduction in salary, even to the amount of half of the salary, for this purpose.

The House indicated its very strenuous disapproval of the suggestion made by the Secretary.

Dr. West: Now, I have always insisted that the salary of the Secretary is more than it ought to be; not that it pays for the work that has to be done, for three times the salary would not pay any too well for the enormous amount of work that has to be done. But that is the status with reference to the Association. Now, demands are being made on everybody and everywhere, not only for this matter, but every other matter, and there is not a class of men on earth that have had to sacrifice as much financially, not only the men that have gone into the service, but the men that are staying at home, as the physicians of the United States. They are taxed more outrageously than any other body of men in the United States—the professional men, and the physicians especially. They are called upon to contribute to many different things. We are building hospitals and the Red Cross campaigns are on, and this, that and the other all over this country; and in every campaign that is put on, the physicians are called upon and expected to contribute. The men here at Memphis and the men at Nashville, I know, have been just bled white almost on these things, but they have come right up to the mark every time. Now, there have been some activities that some of the members of the Association have been carrying on that have not been referred to here. There has been a large expense in connection with securing men for the Reserve Corps. We had some difficulties in making the profession of this state understand what the demands of the Government were with respect to the Medical Reserve Corps. Our men were all willing to go. I do not believe there are ten men in this Association that would not go to Europe tomorrow if they thought down deep in their hearts that they were actually needed in Europe—gray-heads and bald-heads, and young men and all. We had great difficulty in making the men understand that it is essential to have not only the men who must go, but that it is important to have men *in the reserve corps*, so that we would have something to fall back on. In order to present that view properly to the profession the state committee had to bear considerable expense. I do not mean by "considerable expense" a hundred dollars or two hundred dollars, but I mean a thousand dollars. Now, that expense, gentlemen, has been borne by four or five of us. That is the fact in the case. About three or four weeks ago, Dr. Shoulders, who is the secretary of that committee, and who has done a splendid work, appealed to some of the men over the state, and my recollection is that he got about $150. Now, there are seven or eight hundred dollars that have been paid out of the pockets of three or four men, all of whom, with one or two exceptions, are in Nashville. I do not mind telling you, if you want to know, who some of these men are. And then there are other activities that have been carried on there at Nashville, in some of which we have appealed for aid and have received no aid. And the cost of these activities, all needed and required of the Association with respect to war service, has been borne by some four or five men.

Now, I had no purpose to bring this before the Association, but I am simply mentioning it in case in any county represented here directly or indirectly some question should be raised about the matter of taking care of the dues of the men who are gone.

My own feeling about it is, especially since nearly all the counties have taken this step, that the only way is for the counties themselves to take care of the dues of all of the men who have gone.

Dr. S. R. Miller: Of course, we appreciate the fact that a good many of these members have already paid now, but we do not believe that this war is going to be over this year, and we want to fix it for the future. Next year they will not be paid.

Dr. Sanford: We will be on the job when the war is over, all right.

Dr. West: Now, may I make one more remark, if you will pardon me for being up so much? Dr. Steele said last night that he felt like he had been neglected by his own friends, and that he had not received the Journal and so on. There are a great many men in the service who have not received it, and there have been a great many who have not received their membership cards, but every man has had the Journal and a membership card sent, and has had a personal letter from the Secretary's office, many of which have been returned. It is almost impossible for me to keep up with the addresses of these men. They are here today and yonder tomorrow. For instance, Capt. John Morriss, who was wounded in France—I had his address and in less than three days I saw in the paper that John had gone to France. Now, Dr. Steele's Journal has been sent to him every month, even though his name has not been reported at any time as a member of the Association. And so, with the others. I cannot keep up with their addresses.

And I want to say in explanation about the Journal. It has been a matter of great difficulty to keep the Journal going. My own feeling is that the Journal is not as good now as it was two years ago, or one year ago. That is due to the fact that it is almost impossible for me to fill the Journal. There are men in this room that I have written to with tears in my eyes, so to speak, pleading with them to give us something for the Journal, and help us out, with never a reply. The Journal has been full of typographical errors. This program that we have here is "rotten" from a typographical standpoint. Mens' names are left out. That is due to the fact that we have a hundred-million-dollar powder plant being built in Nashville, and printers are offered seven or eight dollars a day to do some other kind of work there, and we cannot keep the same men more than a day or two at a time. We have to do the best we can. I want to say in my own defense in the matter, that the imperfections of the Journal cannot be avoided by me personally—just cannot be avoided. I want to appeal to all of you to help me with this Journal. The members of the Association have to make it, and we have got enough material in this Association to make as good a Journal as anybody's. While I do not think it is as good as it was two years ago, or three years ago, still the Journal, my friends, receives some attention. Every once in a while, and sometimes twice in a while, the Tennessee State Journal is quoted by others. I had my attention called to that the other day. One little editorial was printed in a number of other state journals one month. Every week I get a request for the Journal containing this, that or the other article, and these requests come all the way from Washington in the west to Maine in the East, and from Florida in one corner to Texas in the other. So the Journal is worth while if our men will make it worth while, but unless we can get material to put into it, why we cannot keep it worth while. It has been my earnest wish and desire to make this Journal of the Tennessee State Medical Association a record of the life of the profession of this state, both scientific and social and otherwise. I cannot get information concerning the goings and comings and doings of our members. All I can get is what I cull from the newspapers that I have opportunity to see, and by accidental conversations. I do not get reports from the county secretaries of what their members are doing. What I get is from the press. I do not get it from the members. We could make this Journal much more valuable if we could get that sort of information. You have friends in East Tennessee, and East Tennessee has friends in West Tennessee that they are interested in. They like to know what you are doing and how you are doing it. They would like to hear about your scientific work. And if we could get this information we could make this Journal a very much more entertaining, at any rate, record of the life of the Association.

The Chairman: We have this resolution of Dr. Miller's before the House to be voted on before we adjourn. All in favor of this motion, let it be known by saying "Aye." You have heard it read.

The resolution was unanimously adopted.

Dr. Miller: Now, I have one more motion here. I move that the Secretary-Editor be instructed to not mail the Journal to the addresses of the men serving in the Army, but to mail a copy to the commanding medical officer in the library of each cantonment, and to keep a few copies of the issue on file to supply the requests of all our members in the service.

The Secretary: That has already been done, Doctor.

Thereupon, a motion to adjourn sine die was made, seconded and carried. The meeting was accordingly adjourned.

MORE TENNESSEE DOCTORS MUST GO.

The time has come to redeem the promise, "I will go when needed," which promise was made by many in the days when the first call was sounded for doctors to serve the armies of our nation. If you are physically capable, professionally capable, and of an age which will permit your enrollment in the Medical Reserve Corps, you are needed *NOW*. There is no longer any question about that, as a perusal of the appended letter from the Surgeon General will convince any sensible man.

No long-winded appeal is to be made here to Tennessee doctors to perform a duty which we know they know rests heavily upon them, and which we know they are going to discharge like true physicians. About five hundred of our fellows have gone. There are about twenty-five hundred left in the state, counting all ages, colors and conditions. If it takes the whole of them, the whole of them will go to do each what he can wherever he can serve. Those who are physically qualified must respond first and the response must be prompt and certain.

Read the Surgeon General's letter and then act at once:

WAR DEPARTMENT
Office of the Surgeon General
WASHINGTON.

From
The Surgeon General.
To
Editor Jour. Tenn., State Med. Assn.,
Nashville, Tenn.

(Subject: Medical Reserve Corps.)

1. I wish to call to the attention of the profession at large the urgent need of additional medical officers. As the war progresses the need for additional officers becomes each day more and more apparent. Although the medical profession of the country has responded as has no other profession, future response must be greater and greater. The Department has almost reached the limit of medical officers available for assignment.

2. I am, therefore, appealing to you to bring to the attention of the profession at large the necessity for additional volunteers. So far the United States has been involved only in the preparatory phase of this war. We are now about to enter upon the active, or the fighting phase, a phase which will make enormous demands upon the resources of the country. The conservation of these resources, especially that of man-power, depends entirely upon an adequate medical service. The morning papers publish a statement that by the end of the year a million and a half of men will be in France. Fifteen thousand medical officers will be required for that army alone. There are today on active duty 15,174 officers of the Medical Reserve Corps.

3. Within the next two or three months the second draft will be made, to be followed by other drafts, each of which will require its proportionate number of medical officers. There are at this time on the available list of the Reserve Corps an insufficient number of officers to meet the demands of this draft.

4. I cannot emphasize too strongly the supreme demand for medical officers. Will you give the Department your assistance in obtaining these officers? It is not now a question of a few hundred medical men volunteering for service, but it is a question of the mobilization of the profession that in the large centers of population and at other convenient points as well as at all army camps and cantonments, boards of officers have been convened for the purpose of examining candidates for commission in the Medical Reserve Corps of the army. An applicant for the Reserve should apply to the board nearest his home.

5. The requirements for commission in the Medical Reserve Corps are that the applicant be a male citizen of the United States, a graduate of a reputable school of medicine, authorized to confer the degree of M. D., between the ages of 22 55 years of age, and professionally, morally and physically qualified for service.

6. With deep appreciation of any service you may be able to render the Department, I am

W. C. Gorgas,
Surgeon General, U. S. Army.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

MAY, 1918

EDITORIALS

THE MEMPHIS MEETING.

With many of its members engaged with the forces of our Army and Navy, with many others engaged in the duties of exemption boards, medical advisory boards and other duties imposed upon them by our Government, and with practically all others busy in meeting the demands of civil practice, the Tennessee State Medical Association held its eighty-fifth annual session in Memphis last month. The names of 211 members were entered on the register during the session, and, as usual, there were those present who did not take the trouble to register. Thirty-six of the sixty-six county societies were represented at the meeting, Davidson, with twenty-four registered, having sent the largest delegation. Seven East Tennessee counties were represented, those being Johnson, Washington, Greene, Roane, Knox, Hamilton, and Marion. Members were present from twelve Middle Tennessee counties—Bedford, Dickson, Coffee, Lincoln, Maury, Davidson, Franklin, Putnam, Wilson, White, Warren and Jackson. The seventeen West Tennessee counties represented were Shelby, Chester, Carroll, Henry, Haywood, Hardeman, Henderson, Dyer, Obion, Gibson, Lauderdale, Lake, Tipton, Fayette, Madison, Decatur, and Weakley. Naturally, a large attendance was not looked for at Memphis, and so the registration was really very gratifying, though it could be wished that more of the component county societies might have had members in attendance.

In some ways the meeting was a splendid one, while in some others it was not as good as might have been. The program was short—purposely made so, with a view of having every paper on it read. This was not done. It was impossible to get members into the hall promptly on time, and after getting under way, the program dragged so that only a few more than half of the essayists present read their papers. There never has been a meeting of the Association, in the memory of the writer, at which the program was completed. At the Knoxville meeting, two years ago, every paper on the program was called, but several of the essayists were "out of pocket" when their names were called. Some of these times we are going to have a meeting started on time, with every paper ready, and of a length to permit its reading within the prescribed time, with discussions which will be to the point and concluded at the expiration of the time allowed, with no man speaking more than once—with everybody awake and interested. It can be done.

The guests present at Memphis contributed a great deal to the pleasure and the profit of the occasion. Col. Victor C. Vaughn delivered an address at the open meeting at the First Methodist Church on Tuesday evening, and appeared before the Association on Wednesday morning. He confined himself to discussion of subjects bearing upon the medical side of the Great War. His remarks dealing with pneumonia were of especial interest to the members. Col. Vaughn's unpretentious bearing and his earnestness and patriotic fervor, as well as his scientific thoroughness, won the instant favor of all with whom he came in contact and all who heard him speak.

Major Frank F. Simpson appeared before the Association on Wednesday, and in a most dignified and impressive address set forth the needs of the Medical Reserve Corps and discussed some of the most important medical military problems. A more earnest or more modest gentleman than Major Simpson one would look far to find. It was indeed a pleasure to have him at our meeting, and the Association is in his debt for bringing to us the convincing message contained in his address, through which was so clearly shown where lies the duty of the medical profession of this land.

Dr. William Sharpe of New York, on Wednesday afternoon, read a most splendid paper on certain phases of brain surgery. Dr. Sharpe until this meeting was known to few of our members, but he won for himself many friends because of his personal charm and because of the great merit of his scientific address.

And Major Bell! Well, whoever has not heard Major Bell has something to live for. His address at the open meeting on Tuesday evening was fine. There was patriotic fervor, fire and fun; there was pathos, there was sense and real information about this war; there was human kindness, there was vision—there was everything worth while in the speech of this man. Why doesn't the Surgeon-General or the Secretary of War or the President or whoever has the decision in such matters send this man up and down and across through the land to give the people the vision they need of this war? There is no heart but of stone, no mind that is sane but that must stir to response under the eloquence—the simple, earnest eloquence of Bell. And the man himself is simple and unpretentious in his bearing, but as earnest and patriotic and sincere as the fire of his eloquence is hot.

On Wednesday evening the Memphis and Shelby County Medical Society entertained the Association at a dinner which was delightful in its simplicity and in its satisfying qualities from the standpoint of the inner man.

The illness of Dr. E. T. Newell, our President, kept him confined to his room throughout the meeting, much to the regret of all present.

One of the greatest pleasures of the whole occasion was to be found in the presence of several members of the Association in uniform who had secured leave of absence from their respective posts to attend the meeting.

And in the absence of a large number of those who heretofore have always been on hand, but who now are serving with the flag, was to be found the source of a feeling of deprivation which was quickly obliterated by the sense of pride which the Association entertains for their devotion to the cause of their country.

All in all, the eighty-fifth annual meeting was worth while.

DR. RICHMOND McKINNEY.

The President-elect of the Tennessee State Medical Association, Dr. Richmond McKinney of Memphis, is a native Memphian, receiving his literary education in the public schools and Christian Brothers College, of Memphis, the latter institution having conferred upon him the degree of Master of Arts. His early studies in medicine were pursued under his uncle, the late Dr. F. L. Sims of Memphis, who was Dean of the Memphis Hospital Medical College, now a component part of the University of Tennessee College of Medicine, and the foundation of Dr. McKinney's medical training was obtained in this school. Following this came a protracted period of study in Germany, where he attended the University of Goettingen and the University of Berlin, under Fraenkel, who at that time occupied the Chair of Rhinolaryngology in the University of Berlin. Here Dr. McKinney had the clinical work in rhinolaryngology which laid the foundation for subsequent work in this field which has brought him considerable distinction.

Dr. McKinney is Professor of Diseases of the Nose, Throat and Ear in the University of Tennessee College of Medicine; Oto-Laryngologist to the Memphis General, Baptist and Lucy Brinkley Hospitals; is a Fellow of the American Medical Association, the American College of Surgeons, the Americal Laryngological, Rhinological and Otological Society, the Association of American Peroral Endoscopists, etc. He is a frequent contributor to the literature of oto-laryngology, and has occupied various offices in the societies of which he is a member.

The honor conferred upon Dr. McKinney in electing him to the presidency of the Association is one that is merited by his record, and doubtless, as presiding officer, he will acquit himself worthily.

STATE BOARD OF HEALTH.

At the May meeting of the State Board of Health, held at Nashville on April 30, 1918, the resignations of Dr. R. Q. Lillard, Secretary and Executive Officer, and Dr. H. H. Shoulders, Assistant Secretary and and Registrar of Vital Statistics, were accepted. Dr. Lillard's resignation is to take effect June 1, 1918, while Dr. Shoulders' resignation was effective from date.

Dr. Olin West was elected to the position of Secretary and Executive Officer to succeed Dr. Lillard, and will act as Registrar of Vital Statistics until such time as the Board of Health shall elect an Assistant Secretary and Registrar.

The State Board of Health is composed of the following-named gentlemen: Dr. E. M. Sanders, Nashville, President; Dr. W. W. Miller, Johnson City, Vice-President; Dr. A. J. Biggs, Martin; Hon. J. K. Bryson, Nashville.

DR. RICHMOND McKINNEY

PRESIDENT TENNESSEE STATE MEDICAL ASSOCIATION, 1918-1919

A. M. A. AT CHICAGO.

The Sixty-ninth Annual Session of the American Medical Association, will be held at Chicago from June 10 to 14. The House of Delegates will meet on Monday, June 10, while the scientific sessions will open on Tuesday evening, June 11.

Hotel registrations, as well as Pullman accommodations, should be made early. Trains and hotels are crowded these days, and the man who fails to secure reservations is sure to suffer discomfort and annoyance in traveling.

It is hoped that Tennessee will be well represented at the Chicago meeting of the A. M. A.

IN STATE HOSPITALS.

Dr. R. E. L. Smith, formerly of Doyle, has entered upon his duties as Superintendent of the East Tennessee Hospital for the Insane, having succeeded Dr. E. W. Mitchell, who resigned to resume private practice at his old home, Crossville. Dr. Smith is one of the most popular physicians in the section of the state where he has practiced medicine for twenty-five years, and the good wishes of his many friends will follow him in his new field of service. He has long been a member of all the medical societies in this state to which he has been eligible.

Dr. Sydney Thompson, formerly of Humboldt, where he has been a most successful practitioner for a number of years, is now Assistant Superintendent in the Central Hospital for the Insane, at Nashville. Dr. Thompson, also, has long been an active worker in the medical organizations of his section.

The Journal feels that the interests of all concerned will be in safe hands under the direction of these two members of this Association, who have engaged in a most important work, with large possibilities for splendid service.

AN IMPERATIVE APPEAL FOR MEDICAL OFFICERS.

An urgent and imperative appeal has just been issued by the Surgeon-General of the United States Army for doctors for the Medical Reserve Corps.

There are today 15,174 officers of thee Medical Reserve Corps on active duty, and the Medical Department has reached the limit of medical officers at the present time available for assignment. With these facts before the medical profession of this country, we believe that every doctor who is physically qualified for service betweeen the ages of 21 and 55 years will come forward now and apply for a commission in the Medical Reserve Corps.

The Surgeon-General says: "So far, the United States has been involved only in the preparatory phase of this war. We are now about to enter upon the active or fighting phase, which will make enormous demands upon the resources of the country." The conservation of these resources, especially that of man-power, depends entirely upon an adequate medical service.

Drafts of men will continually follow drafts, each of which will require its proportionate number of medical officers, and there are at this time on the available list of the Medical Reserve Corps an insufficient number to meet the demands of these drafts.

The real necessity for the complete mobilization of the entire profession is imperative. It is not a question of a few hundred men volunteering for service, but of the mobilization of the profession for the conservation of the resources of this country. Let every doctor who reads this editorial and appeal from the Surgeon-General, which appeal is based upon dire necessity, act promptly and present his application for a commission in the Medical Reserve Corps at the nearest Medical Examining Board. If you are not informed of the location of your Board, the Editor of this journal will advise you.

APPOINTED MEMBER OF BOARD OF EXAMINERS.

Dr. C. A. Abernathy of Pulaski has been appointed a member of the Board of Medical Examiners by Governor Rye. Dr. Abernathy was for many years a member of this Board and served as its Secretary for a long time. He therefore takes up again a work with which he is perfectly familiar, and his appointment will undoubtedly add strength to the organization for that reason.

Dr. Abernathy has long been a prominent member of the Tennessee State Medical Association, and has served the Association in many ways. He is now one of the officers of the Giles County Medical Society, and a man widely known throughout the state.

LICENSES REVOKED.

The State Board of Medical Examiners met at Nashville on April 24, 1918, and revoked the licenses of five men who have been convicted in federal courts of violations of the Harrison anti-narcotic law. The Board of Examiners is to be commended for their prompt action in this matter, and have expressed their determination to take similar action in all future convictions. There can be no doubt but that there are men in practice who have not been convicted of law violations, but who deserve to have their licenses revoked because of reprehensible practice. It is therefore unfortunate that the Board of Examiners must wait until evidence is secured and presented in the federal courts and conviction secured before they can take action barring unscrupulous practitioners. The matter of securing evidence, however, if one of extreme difficulty, and attended by considerable expense. The officers of the Board have stated time and again that the Board has no funds with which to meet such expense.

The licenses revoked at the recent meeting were those of B. Friedman, W. S. Webb and A. L. Saunders, all of Memphis, R. G. Hammers, Somerville, and R. H. Early, Nashville.

TOXICITY OF ARSPHENAMINE.

There have been several reports of unfavorable nature from users of arsphenamine, the "American salvarsan," in recent literature. The Hygienic Laboratory at Washington is making an effort to determine the reason for the untoward results that have in some instances followed upon the exhibition of this new product. It is of the utmost importance that perfect substitutes for salvarsan and neosalvarsan should be had, and that soon. The letter from Dr. McCoy, Director Hygienic Laboratory, which appears below, is self-explanatory. We would urge any of the readers of this Journal who have encountered undesirable effects produced in their practice from the use of arsphenamine or neo-arsphenamine to communicate with Dr. McCoy and to co-operate with him to the fullest possible extent in his effort to determine the unduly toxic factor in these new products.

April 5, 1918.

The Editor,
Jour. Tenn. State Med. Assn.,
First National Bank Bldg.,
Nashville, Tenn.

Dear Sir:

In view of the reports in current medical literature of untoward results from the use of arsphenamine and neoarsphenamine, I have to request that you give publicity to the statement that it is requested that samples of any lots of these arsenicals which have shown undue toxicity be forwarded to the Hygienic Laboratory for examination.

In sending these samples, it should be ascertained that the lot number is the same as that of the ampoules used on patients. The samples sent should, if possible, be accompanied by a brief note stating the approximate body weight and age of the patient, the dose and dilution of the drug given, the symptoms and result; that is, whether fatal or not.

Respectfully,
G. W. McCoy,
Director.

DR. FRANK B. REAGOR.

Frank B. Reagor was born at Flat Creek, Bedford County, Tenn., June 8, 1868, and died at Shelbyville, Tenn., June 28, 1917, at the age of 56.

In 1890 he completed his medical studies at the University of Tennessee, and began the practice of his profession in and near Shelbyville, where he remained actively engaged till the time of his death.

As a physician, Dr. Reagor gave his best endeavors to those to whom he ministered, sparing neither his personal comfort nor the exercise of his highest skill in the discharge of his duty whenever called.

In devotion to medical organization and medical fraternity, he stood without a peer in the profession in his community or state, ever ready to lend a hand in any movement for the betterment of his fellow workers. Always an enthusiast in any endeavor in which he enlisted, it was in the field of medical organization that the maximum of his enthusiasm exhibited itself, and it was his untiring efforts in this work that more than all else endeared him to his companions.

Dr. Reagor was a good man, but not a faultless man; but whatever faluts he possessed were those common to all humanity, none being so great as to dim the glory of his life or limit the wide field of his usefulness. He had a great heart full of love for all humanity, and out of it flowed the issues of justness and kindness and frankness and honor, which made his large clientele love him, and commanded the respect of the world wherever he touched it.

In recognition of his sterling virtues, his useful labors, and his exemplary life, is it resolved by the Bedford County Medical Association, of which he was an honored member, and for years the beloved secretary, that his presence will be sorely missed, and his faithful service ever embalmed in the hearts and memories of its entire membership.

T. J. COBLE,
J. P. TAYLOR,
Committee.

NOTES AND COMMENT

Major John B. Steele, M. R. C., was on hand at the Memphis meeting, having come over from Ft. Riley.

Capt. C. W. Brown, M. R. C., secured leave of absence from his post at Lonoke to attend the Memphis meeting.

Dr. Sam C. Cowan, Nashville, has accepted a commission in the Medical Corps of the United States Army.

Capt. C. A. Frazier, M. R. C., Knoxville, has been on temporary duty at the Walter Reed Hospital at Washington.

The following Tennessee medical officers were ordered to report to Ft. Oglethorpe early in April: Capt. Marvin Blanton, Union City; Lieut. L. A. Edmonson, Bethel; H. G. Edmondson, Braxton; E. M. Delap, Chattanooga; A. L. Griffith, Elora; W. W. Winters, Greenbrier; J. P. Carter, S. L. Edwards, C. T. Waters, Memphis; G. W. Holeomb, Nashville; J. E. Hampton, Newport; Clyde Russell, Speedwell; E. B. Carr, Tazewell; K. A. Bryant, Trenton; H. Q. Fletcher, Chattanooga.

Lieut. W. A. Howard, M. R. C., Cookeville, is at Tulane for a course of instructions.

Capt. Louis Levy, M. R. C., is on duty at Mineola, L. I.

Capt. C. L. Goodrich, M. R. C., Fayetteville, after the completion of a course of instruction in Bellevue Hospital, will be on duty at Camp Upton, L. I., New York.

Capt. W. F. Clary, M. R. C., was ordered to Pittsburgh early in April for instruction, and then to Camp Sherman, Chillicothe, Ohio.

The following named Tennessee medical officers are at Camp Greenleaf: Capt. H. H. McCampbell, Knoxville; Lieuts. J. O. Wood, Newport; B. F. Loving, Union City; J. W. Frost, Fruitland; B. L. Schoolfield, Memphis; T. M. Harper, Medina; J. C. Witherington, Munford; S. D. Johnson, Knoxville; W. H. DeLap, La Follette.

Lieut. Robt. Pillow, Jr., M. R. C., Columbia, is on duty in the base hospital at Camp McClellan.

Lieut. S. L. Boecellato, M. R. C., Memphis, is on duty at Ft. Sill, Okla.

Lieut. G. D. LeQuire, M. R. C., Rutledge, is at Ft. Riley, Kans.

Lieut. Shields Abernathy, M. R. C., Memphis, has been pursuing special studies at the Army Medical School in Washington.

BOOK REVIEWS

MATERIA MEDICA, PHARMACOLOGY, THERAPEUTICS AND PRESCRIPTION WRITING. By Walter A. Bastedo, Ph. G., M. D., Assistant Professor of Clinical Medicine in Columbia University. Second edition; 654 pages, illustrated. W. B. Saunders Company, Philadelphia. Cloth, $4.00.

This is a very complete work, even though much that one is accustomed to find in books on like subjects is omitted. The tendency here is to ignore the multiplied useless stuff that so many have written so much about. The Materia Medica and therapeutics of useful new drugs are set out by Dr. Bastedo, as chenopodium, Dakin's solution, benzol and others. Without doubt, the book will be criticised for what it does not contain, since the tendency of the day is to weep over the rejection of the roots and barks and leaves and stems and decoctions and liniments which once served to make up a useless and expensive materia medica, but the average man who has grasped the fundamental scientific facts upon which modern knowledge of disease and its treatment is based will find in this volume most of what he needs to know of its subjects.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., JUNE, 1918 NUMBER 2

THE SWINGING OF THE PENDULUM.*

By RICHMOND MCKINNEY, M. D.
Memphis.

Professor of Diseases of the Nose, Throat and Ear, University of Tennessee College of Medicine, etc.

Progress in all arts and sciences is characterized by epochs which are distinguished through especially noteworthy contributions to development in their fields, and this is notably true as concerns the development of the art and science of medicine and surgery, for in reviewing the history of our calling, we can look back to the many notable discoveries which have marked all advance in medicine. This applies particularly to progress in the special field of work in which we are engaged, and if I discuss only the nose, throat and ear features of this progress, it is not because great strides have not been made in ophthalmology, but merely for the reason that lack of familiarity with this branch of special work does not permit of my so doing in an intelligent manner.

The development of the study of the diseases of the nose, throat and ear dates back not very far, for while there had been some progress made in the clinical investigation of these diseases during the early part of the last century, there had been very little advance made in the knowledge of the nature of the diseases of the larynx and their treatment until the discovery of the principle of the laryngoscope by Manuel Garcia, a London singing teacher, in 1860, and the application of this method of inspecting the interior of the larynx to the study of the diseases of this region. Several decades between this and the year 1884, when Kohler discovered cocain, were characterized by much diligent and good work upon the part of the various English and continental laryngologists, Sir Morrell McKenzie, the famous London laryngologist, probably being the most distinguished of these, but we may date the real beginning of active development in the field of diseases of the nose and throat to the epoch-marking discovery of cocain by Kohler, which, as already mentioned, was announced in 1884. The field of the diseases of the ear had been better developed, and the work of Adam Politzer, in Vienna, during the latter part of the last century, was monumental and epoch-marking, and opened up lines of investigation in otology that have since been developed in detail until we can feel the utmost gratification over the means of diagnosis and treatment in otology that are now placed within our reach. In this particular field of work, we have a clear exposure of the value of surgical intervention, and constantly have impressed upon us the accomplishments of the early otologists, who pointed out to us the way for the treatment of the purulent complications of middle-ear diseases. But this field, also, is not thoroughly tilled, for we have constantly confronting us our helplessness in the presence of otogenous meningitis, and we cannot help feeling that ultimately means will be found for successfully dealing surgically with this practically always fatal complication of purulent otitis media. Perhaps, however, the greatest odium which is ours as otologists is the fact of our inadequate conception of the nature of the progressive form of deafness so commonly encountered, and which we generally speak of as sclerotic deafness, and which absolutely fails to respond to any kind of treatment that we may use to arrest its progress. What a distressing condition this is, and how pathetic its victims, and yet how hopeless do we feel in its presence.

---

*Chairman's Address, Section on Diseases of the Eye, Ear, Nose and Throat, Tennessee State Medical Association, eighty-fifth annual meeting, Memphis, April 9th, 10th, 11th, 1918.

The Austrian school of otologists, who have made many of the most valuable contributions to otology, again have scored in the development by Barany and his associates in Vienna of the labyrinthine tests, which are proving of such great diagnostic value in lesions of the labyrinth and brain. The most pertinent application of the Barany tests that we now are making is in the examination of prospective aviators, in order to determine whether their stabilizing mechanism is functioning properly; but to the neurologist also these tests lend invaluable assistance in the determining of the character and location of brain lesions.

Progress in the study and treatment of diseases of the nose has been very rapid in recent years, and some of the most notable contributions to surgery in our special line of work have been made to nasal surgery. The surgical treatment of chronic purulent inflammations of the nasal accessory cavities has made marked strides, and while the very numerous operations that have been devised for the treatment of purulent conditions of the antra and other sinuses in itself would indicate that surgical technic still is wanting in these conditions, yet we nowadays are so successful in our treatment of these stubborn diseases by radical surgical measures that we at least feel that our position in this respect has decidedly improved during the past ten years. Whether we use the Killian operation for our frontal sinus cases, or the Denker for our purulent antra, or one of the various modifications of these operations, we know that we have at hand effective means for the cure of many of these cases.

The mere mention of the name of Killian recalls the fact that to this dean of German rhino-laryngologists can be ascribed some of the most epoch-marking contributions that in recent years have been made to the surgery of the nose and throat. Although Killian is distinguished for so many operative procedures bearing his name, perhaps he will always be best known for having originated the ingenious method of correcting deviations of the nasal septum which bears his name. This is one of the most valuable minor surgical measures that has come to us in recent years, and yet at the same time has grown to be one of the most abused operations of which we know. The Killian submucous resection of the septum, when done in properly selected cases, is attended with most gratifying results, but there are certain indications for its performance which should be borne in mind before it is advised, and there are many claims made for it which are destined to bring disappointment to those who are subjected to the procedure.

We know, according to the Zuckerkandl, that seventy-five per cent of nasal septa are deviated to some extent from the normal, and I am inclined to believe that this proportion should be raised considerably, but we are not justified from this to regard these cases as all being pathological. In other words, comparatively a small number of these septa show sufficient deviation, and consequent nasal obstruction, to render breathing very difficult, or to produce the remote changes ascribed to this condition. A favorite argument advanced for doing submucous resection is that hearing in an ear which shows a progressive catarrhal deafness may be improved, or prevented from growing worse, by improving the breathing through a naris in which there may be some obstruction, but, paradoxical as it may sound, my observation has been that in most of these cases the deafness is on the side opposite the obstruction, and I personally do not recall a single case where I have done a submucous resection with the hope that there might be some improvement in the hearing of an affected ear where I could conscientiously say that this result had been obtained. This may have been just my misfortune, but I should like to see a statistical investigation directed to the determining of whether correction of septal deviations does influence favorably this condition of progressive catarrhal deafness. Such comment as I have heard made by experienced clinicians has been in keeping with the argument here advanced by me. We see so many instances where people have been disappointed in the results which they have been promised by submucous resection of the septum that I think we should be more careful in the selection of our cases for operation. The securing of proper ventilation and drainage of the upper air passages through restoring a nose to normal patency is very beneficial where the obstruction was positive in nature, and these are the cases where we have the most satisfactory results to our patients and to ourselves. The operation of submucous resection of the nasal septum is a very fascinating procedure from the standpoint of technic, and doubtless we ofttimes permit our enthusiasm to carry us too far in advising it, but the ultimate interests of the patient should always be our first consideration. It is interesting to note in some hospitals what a divergence of practice there is in this respect, as shown by the operations board, for where several men are doing approximately a like amount of work, there will be a disproportionate number of submucous operations posted. This causes us to wonder whether some of us are neglectful of the physical interests of our patients through failure to do submucous operations in many cases where other men would perform these, or whether we are not justified in this more conservative attitude by the ultimate results that are found in so many of these operated cases.

Recent years have witnessed many additions to surgical technic and the armamentarium employed in treating the diseases of the larynx and lower respiratory tract. Again the name of Killian springs to the front for an epoch-marking discovery. To him must be accredited the origination and development of the most of our present-day knowledge of the technic of bronchoesophagoscopy, although our own Chevalier Jackson has also been a pioneer in this work, and today perhaps stands at the head of the worlds' clinicians for refinement of technic and brilliance of achievement in this delicate and exacting work.

The development of bronchoesophagoscopy has given to us methods of handling cases of foreign body in the trachea, bronchi and esophagus that have resulted in the saving of numerous lives, for we have now in our hands the means of removing foreign bodies from these localities, which, while requiring constant clinical application and expensive armamentarium to obtain and maintain proficiency in the work, admits of the removal of foreign bodies from these regions without dangerous traumatism, and with a very small proportionate mortality. The most important function of bronchoesophagoscopy is in the removal of such foreign bodies, but the use of peroral endoscopy permits us to examine and treat inflammatory conditions and tumors of the trachea, bronchi and esophagus, which previously largely were beyond our reach.

We must continue to add laurels to the brow of the old Freiburg laryngologist, now occupying the chair of rhino-laryngology at the University of Berlin, for Killian has made in recent years a contribution to the development of laryngology of considerable value. This is his so-called suspension laryngoscopy. Suspension laryngoscopy has not generally come into use, for several reasons, among which may be mentioned the cost of the apparatus, the infrequent opportunities coming to the average specialist for its application, and the rather difficult technic involved in its use. My own experience with suspension laryngoscopy dates from very shortly after Killian announced his discovery, and yet I must admit that I only occasionally employ the method, for in many of the cases where I might use it, I use a Jackson direct illuminated speculum instead. However, suspension laryngoscopy has a field of usefulness, and in certain cases, such as laryngeal tumors, it affords facilities for operating that cannot be obtained with any other method.

Focal infections in the etiology of arthritis are now enjoying considerable attention, and this is largely the result of the investigations of American clinicians. The role played by foci of infection located in the tonsils, accessory nasal cavities and teeth, especially the tonsils, in the causation of arthritis is well established, and, while our expectations are not always gratified by success in these cases, surgical removal of such foci is curative in many cases of arthritis.

What review of progress in nose, throat and ear work would be complete without touching upon the subject of tonsillectomy! This distinctly American contribution to rhino-laryngological progress still remains a tilting ground of rhino-laryngology, and yet extra capsular enucleation of the tonsils is an addition to surgery of which America should be proud, even though the conservative profession of Europe has been slow in accepting it, and has tenaciously clung to the simple method of slicing the tonsils off, or tonsillotomy. I am not seeking here to start a controversy, but I feel that I cannot refrain from giving expression to an opinion that our own Sluder, through the development of his technic of tonsil enucleation, has made one of the most valuable contributions to surgical technic that recent years have seen.

This rather sketchy essay would not be complete without at least a brief reference to vaccine therapy as applied to conditions of the nose and throat. It was perfectly natural that with the advent of vaccine therapy attention should be turned to the use of this means of treatment in various inflammatory conditions of the nose and throat, for in these were found readily accessible secretions from which to make vaccines, and theoretically this kind of treatment seemed to be especially indicated in catarrhal and purulent affections of these regions. But our hopes have not been realized in this respect. Vaccines for purulent middle-ear inflammations, for chronic sinus troubles, for acute coryzas, have been tried without end, and while there are plenty of strong advocates of vaccine treatment for these various conditions, I believe there exists a marked skepticism as to their real value. The preventive treatment of the tendency to acute coryza has many advocates, and every once in a while we see some one who claims to enjoy immunity from formerly frequent head colds due to the administration of stock mixed catarrhal vaccines, but I have always been inclined to regard this as merely a coincidence, for in a large series of cases in which I have employed stock vaccines for prevention, I have yet to see one instance where I believe they were of any value. Treatment of any condition with a stock vaccine is irrational, the rational method of using vaccines being the isolation of the offending organisms from the patient's secretions, and the preparation of an autogenous vaccine, and with this means of treatment I think we sometimes obtain fairly satisfactory results. Chronic periodic vasomotor coryza would seem to be a splendid field in which to use autogenous vaccines, but although we have at times been encouraged by apparently remarkable results in the use of such vaccines in hay fever, we have been disappointed in most instances by subsequent failure. Yet I think we are on the right track, and that ultimately we will succeed in developing our bacteriological technic to the extent that we shall discover the proper means of making a vaccine or serum, either from bacteria or pollen, and of administering it, which will be a preventive in hay fever. I have latterly been gratified with results obtained in the treatment of bronchial asthma by the use of an autogenous vaccine made from secretions obtained from the bronchial tubes, and while my experience in this is not large, I have three cases where, after twelve successsive inoculations with autogenous vaccine, using five hundred million organisms at a time, there has been complete relief from attacks of bronchial asthma, which had been coming regularly, almost nightly, for a number of years. This also may be coincidental, or psychic influence may have something to do with the result, so I am making no extraordinary claims for the treatment, and have always, whenever I used vaccines, made it a practice to express skepticism to the patient, and to tell them that when I do secure favorable results it is more than I expected. I certainly, however, feel justified in continuing to treat cases of bronchial asthma with autogenous vaccine whenever I can obtain the co-operation of the patient.

An iconoclastic tone seems to pervade these remarks of mine, but I am not endeavoring to be an idol breaker—merely expressing my personal opinion in such matters as are discussed, for the views expressed in these rambling remarks are purely personal. But probably through the relation of personal experience we can come nearer to arriving at the truth concerning the treatment of conditions presenting themselves to us, and as I look back over a number of years of activity in nose, throat and ear work, I find that my views have changed from time to time, and that as my experience grows richer it is less diffiuclt to select the wheat from the chaff, and to evaluate, to my own satisfaction, the new methods and theories which are offered to us. The pendulum swings back and forth in our field of work, just as it does in everything else, but as it sways and ticks off the mutations of time, so one thing after another goes into the discard, but out of the whole we are developing methods of treatment of such great practical worth that we rapidly are placing our own special field in a recognized position of exactness and success in treatment, and we all are cognizant of the fact that the possibilities in the development of the study of the diseases of the nose, throat and ear are limitless, and look for even greater strides forward in the future.

THE MEDICAL PROFESSION AND THE PART IT PLAYS IN WAR.*

By Lieut.-Col. Victor C. Vaughan,
Washington, D. C.

Mr. President, Ladies, and Gentlemen:

It has fallen to our lot to live amidst the greatest catastrophe that has ever fallen upon man. It is not of our own wish. It has been forced upon us. For nearly three years we stood on the doorstep of our national home and watched the great storm raging in Europe. We heard the thunder crash which destroyed fair Belgium. We saw the lightning flash which came, time after time, tearing to pieces the greatest works of man. We stood and looked on indifferently, or we busied ourselves about our usual occupations and the most of us said: "The storm is far away; it does not concern us." From the doorstep we saw members of our own household go out to be sunk in a most ruthless and cruel way, and still we said, "It is no concern of ours." And now and then a cloud drifted across the Atlantic and we felt that some day what was happening over there must come to us. A few men told us what must happen. Such men as General Leonard Wood, the late Representative Gardiner, and the editor of the Providence Journal pointed out what was coming; but we said, "Oh, no; we are so far away. None of this can concern us."

I often think of a story that is told concerning a certain man who lived some years ago in Michigan. He had accumulated a great deal of money in the pine trade, and finally he bought up several thousand acres in the northern part of the Southern Peninsula, and built a magnificent house. He was busy with hundreds of servants clearing out a magnificent park, building a palatial residence and furnishing it with all that art could suggest and money could buy. One day there came a telephone call to him to this effect: "The forest fires are raging at Mackinac; send your men to help put out the fire." "But," he said, "Mackinac is ninety miles away, and it does not concern me." The next day a call came that the fire had reached Petoskey. "Send your men; send everybody you can to help put out the fire." But he said, "Petoskey is forty miles away; it does not concern me." Before the next day had passed, his beautiful park, his palatial residence, with all its decorations, with all its works of art, and everything that he had accumulated, was swept from the face of the earth.

We were very much in that condition. I will leave it, however, to the historian of the future to tell as best he may something about the mental attitude we were in during the nearly three years that we stood aloof and watched the storm from a distance. It will be no difficulty at all on the part of the historian of the future to tell why we went into the war; it will be a difficult thing for him to explain why we delayed so long. We not only delayed, but we failed to make any preparation, and today we must put our soldiers, legion after legion, all unprepared, into this great affray.

Our President, our worthy President, and I am sure I mean no disrespect or criticism for him when I make the statement that I am about to make—I have shown my loyalty to Mr. Wilson by voting for him twice—but I say, our President has stated that we are in this war to make the world safe for democracy. So far as I am concerned, and I have been the holder of a chair in a great university for nearly forty years, this is altogether too academic for me. It does not touch my cerebral cells at all. I dont' care what kind of a government they have in Germany; I am not in the war to make the world safe for democracy; I am in the war because I want to help save my country from the spoliation which has occurred in France and in Belgium. (Applause.)

I met at one of the Southern camps not long ago a young man whom I have known all of his life. I knew how under financial difficulties he had managed to pay his way through college, and after graduation he had gone on and secured professional learning, and was fast establishing himself in New Orleans. I was glad to meet him in uniform in one of the Southern camps, and I said to him: "My boy, I know what cost it has been to you to go into the army, and I wish to congratulate you." He said: "Doctor, not a word of congratulation. I am in it because I could not keep out of it. For weeks," he said, "I thought the matter over; I weighed it at every conceivable angle. I thought of my duty to my country, and I thought of my duty to my family, my wife and two little children, and of my duty to my profession, and I decided that the war was not for me. But one night I was reading Mr. Bryce's account of the atrocities committed in Belgium when it came over me like a flash—suppose the barbarian, the Hun, should override our country and it should meet with like fate that has been meted out to Belgium, and I did not raise my hand and certainly had not done my best? I could stand it no longer. The next morning I consulted a recruiting officer and enlisted, and I am in the war, whatever it may cost me."

---

*An address delivered at open meeting, during annual meeting of Tennessee State Medical Asso-

It has been my great pleasure to meet at Washington during the last few months many officers of the French army. I met one day a major in the French artillery. He was a man who had to me an extraordinary face. I became interested in him, and apparently he liked me, because in a few days we were intimate friends, as sometimes happens when you meet a stranger. I gave him an opportunity several times to tell what part of France he lived in, because I had bicycled all through France many years ago ,and knew the country pretty well, but he always evaded that point when it came up and turned off unto something else. One night he and I were dining alone together when in a rather glib way I was telling of the bicycle ride that Mrs. Vaughan and I had some years ago through Brussels down to Paris. I told him how I had rested one night in a beautiful little village of Mons, in Belgium, and how the next morning we had climbed the small mountains between France and Belgium, and how we had coasted down these hills. We had crossed a little moat and saw living evidence of the good relations between France and Belgium, and I said: "We crossed this little moat and we were in beautiful France." I felt his hand upon my heart, and I looked up and saw tears running down his cheeks.. He said: "That was Maubeuge;" and I said, "Yes; Maubeuge." He said: "That was my home. There I lived in a little valley. I left my home in 1914 when the war began. Very soon that country was occupied by the Germans. During the first year of the war I occasionally saw some one from Maubeuge who had escaped through the lines. After a few months absence, when one of my fellow citizens saw me, he turned aside and tried to avoid meeting me. I hurried after him and caught up with him, and I insisted that he should tell me of my family. I found that he turned his head aside; that he did not dare look me in the eye, and I learned from him that my wife and two girls, just blooming into womanhood, had been raped by the Huns. Since that time," he said, "I plied my battery, and whenever I saw that the shells went wild and did not harm to the enemy, I grated my teeth. I swore in rage; but when I saw that the shells struck the right place and the enemy was mutilated and injured, I felt the only thrill of my life, and when I was detailed to come to America to instruct American soldiers in artillery, I said at first, 'I cannot leave my battery; it is the only pleasure that I can know.' I was told that I would go to America to train hundreds of men for artillery work."

Ladies and gentlemen, that is why we are in the war.

Think of what has come to Belgium, to Serbia, to northern France, and then think of France transplanted to the United States, and think of our country desolated in the same way.

Our President again says, "We are not at war with the German people; we are at war with German autocracy." Who sunk the Lusitania? Who ravaged women in Belgium? Who fired cathedrals in France? Who has depopulated Serbia? The German people, and we *are* at war with the German people.

I know there are among us, and probably before me tonight, people of German descent. To those especially this war should appeal. Hundreds and thousands of the best blood of Germany fled from that country to this in order to escape the tyranny of their own despotism, and I bring the message to you tonight, my dear friends, that scores and hundreds of men of German descent are now in France doing what every good American should do, and there are scores and hundreds of others of German descent who are anxious to go. (Applause.)

So long as the German people follow and are directed and guided by that man who has chosen for his own appellation "Attilla," and for his men "the Huns;" so long as the German people follow the Kaiser, we are fighting the German people, and it is a fight to the death. (Applause.)

There is no profession which has been called upon so extensively as the medical profession in this war. This is true of all the nations engaged in it. There is no profession which has borne this more nobly than the medical profession. While up to now signal or complete victory has come to neither side, there is one flag in Europe today that has won the highest triumphs that man has known, and that is the flag of the Red Cross. (Applause.) Wherever there are wounded, wherever there are sick, wherever soldiers are in distress, there the physician is to take care of them, and the death rate in the medical department, including its stretcher bearers, the enlisted men, is as high as it is in any other branch of the army.

There are in the United States about 140,000 legally qualified physicians. More than 20,000 of these, or one out of every seven, have voluntarily offered themselves to their country. I challenge any other profession, trade or calling to show equal patriotism in this war. However, there must be a greater sacrifice still on part of the medical profession, as we need 10,000 more doctors, and they are going to come without any draft or without any compulsion. (Applause.)

It is quite foreign to the medically trained man to engage in war. All of our education tends to relieve and not to inflict pain; but when our country is in distress we go, and go gladly.

It was my fortune to be in the Medical Corps of the Army in 1898. I went to Cuba, and I was fortunate enough to be a participant in the battle of Santiago. When I came back to this country in the summer of 1898, with two other men, the President of the United States constituted us a commission to visit all the camps in the United States, and we did so. The memory of that summer impressed itself upon my mind and upon my memory as no other experience in my life has ever done. At Chickamauga Park, men with stars on their shoulders asked me: "Do you know what Chickamauga means?" And I said, "No." They replied that "Chickamauga means the river of death, and the disease we are having here is not typhoid fever, it is not malaria; it is Chickamauga fever." I watched the hospitals in our various camps in that area; I saw thousands and tens of thousands of young men who had left their homes and practices to go to their countrys' call. I saw people sick, dying, and dead of typhoid fever. I walked down the aisles of the two great hospitals at Chickamauga, the Leiter Hospital and the Sternberg Hospital, with men on cots on either side, some in the wild delirium of typhoid fever, some in the coma of that disease, with flies swarming all over them, and I saw the mouths of unconscious men filled with flies. The impression made upon me at that time has been with me ever since, and I thank God that if this war had to be, I am able to be in it, and I am dedicating my whole life and my whole energy to trying in my feeble way to assist in preventing in any way the horrors of 1898. It is my glorious privilege to assist that great Southerner, General Gorgas, a man who rendered the building of the Panama Canal possible, and who converted that pest hole into one of the most salubrious parts of the earth, reducing the death rate until it was lower than it ever has been now or is likely to be within the next few years in the City of Memphis.

During the past few months we have had assembled in the various camps and cantonments nearly a million young men. You have read much about it in the papers. It is true, in certain places, there has been an undue amount of sickness, but I cast up a few days ago the figures, and I can tell you tonight authoritatively that the number of deaths among the soldiers in the camps and cantonments in the United States in the last six months is less than it was among the people of the same age in civilian life (applause)—5,000 deaths in round numbers in our camps and cantonments, which makes an annual death rate of 10 per thousand, while in civilian life the deaths for the same ages – from 21 to 31 years—have been during the same time 12 per thousand. But we are not satisfied with this. If possible, we are going to reduce the death rate still more.

This is a time when the country is appealing to everybody for the third Liberty Loan. Let me say that every citizen in the United States, woman or man, is concerned in this war, and everybody is expected to contribute one way or another. The individual who takes advantage of conditions existing now and attempts to profiteer out of the war is an alien enemy, should be treated as such, and should be shot at sunrise. (Applause.) The man who attempts to profit out of soldiers' clothing; the man who attempts to get a corner on food; the man who seeks in any way to make undue profit out of any business with the government is a traitor to his country and should be treated as such. (Applause.)

It is not given, nor is it desirable, that every one of us should wear a uniform or become a soldier, but it is obligatory upon every one to do something to win this war. The man or the woman who fails to do his duty or her duty at this time of need will have to spend the hours of his or her life in explaining why he or she did not do it, and the man who grows rich out of the country's necessities may live in a palace after the war is over, but he will live detested and dishonored by his neighbors. The doctor who stays at home and takes advantage of the business of his colleagues may live on the avenue and be a director in a bank, while the man who goes may live after the war on a side street and be fortunate if he deposits a few dollars in the bank, but it is that man who will be honored and who will leave to his children an inheritance worth having. Thus it must be all along the line. (Applause.)

I feel myself that there is no service that I can render my country which will not be willingly rendered. I have four sons in the army. I wish I had twice that number. Two of them have been over there nearly a year now—a year in July—in France. I do not know tonight whether they are dead or alive. They are probably with the British army in the thick of this fight. One of them was in the big fight at Cambrai and is with the British army now. I hope and pray with all my soul that they may live and come back safe and sound, but if fate be otherwise; if their bodies are to mingle with the soil of France, may they rest in the free France whose freedom they have assisted in securing, and may the foot of the Hun never pass above their graves. (Loud applause.)

SANITARY CONDITIONS IN CAMPS AND CANTONMENTS.*

By LIEUT.COL. VICTOR C. VAUGHAN,
Washington, D. C.

Mr. President and Gentlemen:

I want to say just a few words in confirmation of what Dr. West has said concerning Dr. Welch. To my mind, and without any disparagement to others, there are two medical men in this country whose names and whose influence and whose work today are of the greatest value not only to the medical profesison of this country, but to the whole world. Those two men are William C. Gorgas and William H. Welch. (Applause..) No man has done more for scientific medicine than Dr. Welch. Whether we ever had the privilege of studying under him or not, we all know him as "Popsie" Welch. His judgment is sound; his knowledge is almost unlimited. There is no department of medicine in which he may not speak with authority, and Dr. Welch, 68 years old today, is doing the work of a man under 40. He goes from one part of this country to the other—the far West, South and North—and visits camps and cantonments, and there is no man upon whom the Surgeon-General relies more than he does upon Dr. Welch.

William C. Gorgas, a son of one of your neighboring states, a man as gentle as a woman, is absolutely free from what we ordinarily think of as the attributes of a military man. I have been traveling with him this fall. He carried two grips and I one, and sometimes when he got off a train I would take one of his grips, but he said, "You embarrass me; give me that grip." And one time, while waiting for a conveyance of some kind, he said, "You are older than I. Why dont' you send Billie around the corner and order that cab?" (Laughter.) Think of the Surgeon-General talking in this way.

I owe myself a personal debt of gratitude to Dr. Gorgas. When I was sick with yellow fever at Santiago in 1898, it was Dr. Gorgas who took care of me, and I owe it to his skill and to his care that I am alive today, and in the 20 years that have elapsed since 1898 and 1918, I have had lots of fun, and I owe it all to Dr. Gorgas. (Applause and laughter.)

---

*An informal talk delivered at the annual meeting of the Tennessee State Medical Association, Memphis, April, 1918.

I want to say here, with all my earnestness, that the profession of the United States has rallied around the Surgeon-General of this country largely because it is William C. Gorgas, whom we all know, whom we all love, and we all honor.

The Surgeon-General at the outbreak of the war was put in a very peculiar and embarrassing position. There had been no Surgeon-General in this country. At the outbreak of the war, who is there that escaped very severe criticism? We know what happened in the Civil War. We know that one Surgeon-General was court-martialed and dismissed, rightly or wrongly, I will not say, but we know how General Sternberg, a most eminent scientist, a most thorough gentleman, had to bear the criticism which should have fallen upon somebody else. There is always a tendency to hit the Medical Department of the Army, even when they want to hit somebody higher up. Critics know that the biggest hit they make among the public is to say that your sons in the camps and in the field are not being taken care of properly, and that hits the Medical Department.

I do not know what your President expects me to talk about. There are a great many things I would like to talk about, but I want to say that General Gorgas, before a camp or cantonment was provided, stated most clearly and emphatically that the diseases that we would have to deal with would be the respiratory diseases, and I heard him make the statement to the Secretary of War that ample provision must be made. He demanded 50 square feet of space, and he pointed out that the respiratory diseases were contagious and were spread universally in proportion to the distance between individuals. Now, I am not criticizing anybody. No one can go around this country and see the great work that has been done by the Quartermaster's Department, by the engineers, by almost every department of the Army, without being filled with admiration. Thirty-two great cities, to say nothing of smaller ones, have been built from the beginning up—places that were covered with stubble a few months ago, and now well lighted, well paved, well sewered and properly watered cities. Next to the largest city in America is Camp Meade, and so we have perfect a view of these large cities that have been built besides almost innumerable camps.

I asked one of my assistants in the office the other day to tell me how many camps and cantonments there are in the United States, and after laboring on it for a while he came back and said that today there are 72 organizations, 72 different camps and cantonments in the United States, 16 for the National Guard, 16 for the National Army, and the others for the Aviation Corps, the Quartermaster's Corps, the various departments, Signal Corps, and so on. General Gorgas has to look after all these from the standpoint of health.

As I stated last night, we figured up the other day the death rate among the soldiers in the United States, from the first of October to the 31st of March, and we found that the death rate among those between 21 and 31 years of age in the army has been lower during these six months than the death rate among the civilians of the same age. (Applause.) I hold, and I think all will agree with me, that this surpasses anything that has ever been done in the history of war. No troops can be assembled, especially when they come raw and green from their homes, without a great deal of sickness and a more or less exaggerated death rate. Of course, you understand that the death rate among the soldiers, more or less selected men as they are, should be a little less than among the same age in the civil population.

There are some things that are very interesting, and especially interesting to the people of the South. Northern soldiers, in Northern camps, have made a very good record up to the present time. Southern soldiers in Southern camps, whether they be of the National Guard or National Army, have not made so good a record. There has been much discussion as to why this is true, and I think I cannot discuss anything which will be of more interest to you than this. Some say that the average boy in the South is less robust and less fit for service than the average boy in the North. I do not know whether that is true or not. Some say that the prevalence of hookworm disease in certain parts of the south, and the more or less wide prevalence of malaria in the South, account for the fact that Southern soldiers have been more prone to pneumonia and other respiratory diseases than those of the north. How much truth there is in this I am not ready to say. Whether the Georgia granger or the Michigan wolverine is going to make the best soldier I am not ready to decide yet. I know in the sixties both of them made pretty good soldiers, and they were no unworthy antagonists. There are some striking things I wish I could solve.

Take, for instance, the camps in Georgia—Camp Wheeler, made up of the National Guard of Georgia, Alabama and Florida—has had a bad record. It has had nearly 3,000 cases or more of diphtheria, of measles, and it has had a very large death rate and prevalence of pneumonia. Camp Gordon, located in the same state, and made up of the National Army of Georgia, Alabama and Tennessee, has been a good camp. Now, whether Tennessee has been the leaven that has been put into this camp and has made it good, I cannot say; but here are two camps in the same state, and still one of them has a bad record and the other a very good record. I wish you Southern doctors would explain this.

I laid emphasis just a few moments ago upon the fact that Northern soldiers in Northern camps have done well up to the present time. I have always hesitated to draw conclusions concerning the results up to the first of April, because I have said wait, wait. The time for pneumonia in the North is coming, and within the last two weeks has increased markedly in the Northern camps. In making these statements I do so tentatively. I may be wrong. I will admit I am not absolutely satisfied about it, but tentatively I would say that pneumonia ordinarily is more common in the South than it is in the north; that pneumonia is more deadly in the South than it is in the North. This is not a new thing. The elder Flint, who practiced medicine in New Orleans, in Louisville, Ky., in Buffalo, New York, and in New York City, and who had a large and wide experience, made this same statement forty or fifty years ago. I think ordinarily we do not look at it this way, that pneumonia is more prevalent and has a higher rate of mortality in the South than it has in the North. There is a prevalent idea, I think, among the medical profession and among the laity as well, that altitude has a great deal to do with the mortality from pneumonia. We have looked this up very thoroughly, and we find that there is no support for it whatever either in military or civil experience. The death rate from pneumonia has been no higher in camps with a high altitude than it has been in those with a lower altitude.

Studying the prevalence of pneumonia among the civil population and taking cities, because we cannot get exact data from other parts of the country, Pittsburgh has the highest death rate of any city in the United States—that is, total deaths—and I am inclined to think, and this idea may be changed as we get more information, that the high death rate in Pittsburgh is due to the prevalence of dust and dirt in the atmosphere. I am inclined to think that the dust in the camp at Wheeler, for instance, because it has been very dusty there, at Cody, at Doniphan, at Travis and various other places in the South, has been a factor in the wide prevalence of pneumonia. Another thing that is very important, to go back to Camp Gordon and Camp Wheeler for a moment, is this: Camp Gordon is a National Army camp and Camp Wheeler is a National Guard camp. Camp Gordon has received but two men into the camp that have not come by draft. Camp Wheeler has received every now and then from 1,000 to 5,000 men directly from other camps, and these men have reached the camps bearing with them a great deal of infection. One day about 5,000 soldiers came into Camp Wheeler, and there was not a train of those soldiers coming into Camp Wheeler that did not have from one to six cases of infectious disease on them when they reached Camp Wheeler. Camp Funston, in Kansas, poured its sick into Camp Pike, and Camp Pike poured its sick into Camp Wheeler, and so on, and so it went on in that way. One cause of the spread of infection has been in sending sick or exposed soldiers from one camp to another, a thing that would not have been permitted in civil life, and that has been done universally independently of the Medical Department. In fact, the Medical Department is not notified.

I was at Camp Custer the other day, and the first thing the medical officer knew at Camp Custer was that 900 men from Jefferson barracks arrived at Camp Custer. That was the first thing he knew about their coming. Nine hundred and eighty men, I think, arrived at Camp Custer, and the first thing the division surgeon knew about it was that they were there, and from the train he took 77 of them to the hospital, and the next day, out of 980 men or thereabouts, over 600 of them reported at sick call. There was no notification at all. If you are in private practice, you can't ship a dead body if the person has had an infectious disease from Memphis to Nashville without notifying the health officer of Nashville that a body dead of diphtheria or something of this kind is coming. These things are unfortunate. They will be remedied, and I hope we will get the death rate lower still. I am quite sure we will. There is so much of this thing, and I am so full of it that I don't know when to stop.

What is the cause of pneumonia? We have about settled down to the conclusion that the pneumococcus is the cause of pneumonia, and undoubtedly it is; but so far as laboratory investigations have gone up to the present time, the pneumococcus is not the most frequent cause of pneumonia in our camps. It is a streptococcus, a streptococcus hemolyticus or a hemolytic streptococcus, and the deaths have not been so much directly due to pneumonia as to the empyemas that have occurred along with or were the sequelae of the pneumonia.

So far as the treatment of pneumonia is concerned, No. 1 type, as worked out by Cole of the Rockefeller Institute, has not been very frequent in the camps, but when No. 1 has been detected, and where the Cole serum has been used, the death rate has been very low. It has no effect in cases due to the other form of pneumococcus infection, and it has no effect upon the pneumonia due to the streptococcus hemolyticus.

Vaccination is being tried both as a prophylactic measure and as a curative measure, but it is too early yet to make any definite statement concerning it.

Meningitis has been more or less prevalent in most of the camps. I think I can say there has been no distinct epidemic of meningitis in any of the camps; there have been sporadic cases here and there. What to do with meningococcic carriers is still a question. There are hundreds and thousands of them both in the Army and in the Navy. We are seeking and have been seeking all kinds of methods of clearing up these carriers with not altogether encouraging results; and whether they should be isolated and kept isolated or not is a question.

War has very frequently contributed much to medicine. It has given medicine an opportunity. In a military way, we are not very proud of our war with Spain. Sixteen thousand American soldiers fought about 800 or 1,200 Spaniards. At San Juan there were about 1,400 American soldiers killed and 1,600 wounded. There were two Spanish soldiers killed to one American,and to every Spanish soldier wounded, nothing to be proud of in a military way; but in a medical way the Spanish-American War led to the demonstration by Reed of the manner of the spread of yellow fever, cleaned up Cuba, and enabled General Gorgas to convert the Canal Zone into one of the most healthful regions on earth. (Applause.) And the studies of typhoid fever that resulted from that war led to the practical prohibition of typhoid fever in all the armies of the world.

Medically, we can look forward to this war doing for us, at least here in America, what the Spanish War did for typhoid fever, and do for pneumonia and the respiratory diseases what the Spanish War did for yellow fever and typhoid fever. This is one of the great problems that lies before us. I thank you very much. (Applause.)

THE MEDICAL RESERVE CORPS AND MEDICAL MILITARY ACTIVITIES.

By Major Frank F. Simpson, M. R. C.,
Chief of Medical Section, Council of National Defense, Washington, D. C.

Mr. President and Gentlemen:

I come to you today from the Council of National Defense to bring a brief message to you and through you to the profession of Tennessee a call to service in the Army and Navy.

You have heard the eloquent, soul-inspiring addresses of the men who have been to the front. You are familiar with world events. You do not fail to estimate the task before this nation. You do not underestimate the strength of the adversary. You, with the vision that the strong medical men of this state have, cannot fail to see that before this conflict is over this nation must many times multiply the forces now under arms, and with the increase in the number of fighting forces there are those whose duty it is to take the human wreckage from the fighting machine and in the hospitals, act as a salvage group to see how many can be saved, and that group of men must be correspondingly increased. You men of vision know that at the beginning of this great conflict our forces were nothing as compared with what they must be one, two and three years hence. All medical men are loyal and strong and true, are willing to make sacrifices and to render service, so you know that the armed forces of the nation must be served by the medical profession in increasing numbers.

You read on the 28th of March the appeal in which the Premier of England (Lloyd George) stated that it is impossible to exaggerate the need of getting men to the front from America in the shortest possible space of time. In the next issues of some of the papers it was stated that the President of the United States had given direction that all things else must stand aside while the armed forces of America were rushed to France. You know from the statements which appeared when the Secretary of War was before the Senate Committee, that he estimated that more than a million and a half men must be in Europe before the close of this war. You know for every man that goes to the front, at least one man must be called to the colors for training to take his place when the time for additional forces comes. You know that it takes 7,000 doctors per million men, and that if at the end of this year we have 3,000,000 men under arms, 21,000 doctors will be needed to care for these men. Twenty-two thousand doctors have offered their services to the Reserve and other corps of the Army. Of that number, for one reason or another, about 1,350 have not yet indicated to the authorities in Washington that they have accepted their commissions. About 1,550 have been dropped from the corps because of physical defects. Some have been dropped because they are past the retiring age, a few because of unfitness, and so on. We have available 18,000 doctors, leaving a net deficit for the actual needs of 3,000, unless there be additions by the end of the year. But as you see, you who have planned all of your lives to do the best under existing conditions, are not to tie the hands of the Surgeon-General by giving him a scant surplus to draw from. He must have, at all times, at least 5,000 men as a surplus held in reserve. By having such a surplus, it will be possible for him to assign men to the duties which they are best fitted to perform. Without that service, he must of necessity try to put square pegs into round holes. He of all men of the nation knows the value of highly trained men and of giving them the work they are capable of doing. He has indicated his desire to do that by developing in his own office there five divisions at the beginning of the war, and twenty-two divisions today. He has indicated a desire to know intimately all details regarding the capabilities of men so that they can serve to the best advantage. He has done that by bringing into his own office the masters of military surgery in each line of activity, and the masters of civilian surgery in each specialty of medicine, so that he has combined the knowledge of military men and our scientific knowledge as well, and a broad acquaintance of the reserve officers with the profession of America. It is impossible to produce an organization superior to such a type as that. He has further indicated his desire to know intimately what men are capable of doing by establishing schools and training camps throughout the country, and at those training camps a man is studied thoroughly. He is trained thoroughly. Some have thought, perhaps all of us at one time thought, that when we entered the service we wanted to go straight to France and do the work we are accustomed to doing. There is, as you have heard in eloquent terms, the most striking difference possible between the activities of civil life and the activities of military life. As citizens of this state, as the dictators of your communities among your own clientele, you are the men that give orders, you are essentially individualists. Your training of a lifetime has been that of individual activity much more largely than teamwork, and yet the one thing, without which no army can win, is teamwork. In order to do your work well as officers in the military establishment, you must learn to take orders as well as give orders, and with a habit of mind well established this cannot be done in a day. You must have a period of training in a military establishment. You must have your physical being trained so that you can stand the hardships of warfare, so that it is essential for a man to spend a considerable period of time in a training camp.

Now, what does this increase mean to the medical profession? It means that if we are to meet what would appear to be a very evident and minimum necessity, we must increase the Reserve Corps of the Army by 8,000 to 10,000 men before the close of this year. We must realize that at the close of the year, if that increase takes place, we must again increase the number. If that increase takes place, Tennessee, which has made a splendid stand, which has already contributed in the neighborhood of 479 or 480 men to the Reserve Corps, must make additional contributions. We must realize that Tennessee must raise 246 other officers for the Reserve Corps and for the Navy if she fulfills the solemn obligation in the manner in which this state has always done. Of that number, the Navy needs now, as early as she can get from this state, twenty-five competent men. The Army will need for the Reserve Corps 221. Not all of you will go, but it is of fundamental importance as this new need comes that you, who represent the strength of the medical profession of your state, take to heart and take to your homes the solemn resolve that Tennessee will in the near future bring forth 246 men now needed.

I may say with reference to the various medical organizations of your state, the county and local committees of the Council of National Defense, that they have done masterful work. The analysis of the medical men, of the number who can be spared, of the number who cannot be spared, which the State Committee of the Council of National Defense has turned in for Tennessee, is one of the most complete and best reports that has come in from any quarter of the nation. (Applause.) I have no doubt that within a comparatively short time the profession of this state will rise to this obligation as it has risen to every other one that has come before it. I am sure that a simple statement of facts to such a body of men as this is all that is needed. I thank you. (Applause.)

SURGERY ON THE BATTLEFIELD.

By Major W. J. Bell, M. R. C.,
Instructor at Camp Greenleaf.

Mr. President and Gentlemen:

In the brief time at my disposal, I feel I might be of more service to you if, instead of trying to deliver any set address, you were to intimate to me along what lines you would like information. I would like for any of you to ask questions as to treatment or the way to do things on the battlefield, from the time a man drops out in a front line trench until he gets out of the discharge depot, because I have been with them.

I had the privilege of bringing one man across the Atlantic Ocean who was in my hands in less than ten minutes after he fell in the Somme. I recognized the peculiar type of injury, and like a flish it went through my mind at the time, some one would say, I would try to save that leg, but I felt confident it ought to be taken off. Many an ultraconservative surgeon has left a useless limb. It is hard to tell sometimes when and when not to amputate. In this case there was a large amount of destruction of bone about the ankle. The heel was blown away, and the other thigh was shot off. There is no trouble about deciding on amputation there. That was the condition when he passed through my hands. That was the condition found six months afterwards.

If there is any particular thing you would like me to talk about, I will try to do so. I would like to give you an outline of the Carrell-Dakin solution, or bipp, or flavine, or would you like me to tell you how the wounded are handled in the front line trenches, or would you like me to speak of civilian surgery in France?

A Member: Please tell us from the beginning how you manage to bring them back.

Major Bell: When a man falls in the front line, he receives his first dressing from his comrade or emergency dressing that he has with him, or if he is severely injured a call is made on the regimental stretcher bearers, two of whom are in each company, but this number is inadequate in times of great stress to bring the wounded back, and others may be forced into the work of being stretcher bearers. The wounded man receives such dressing as the emergency requires. If he has received an ordinary slight wound—and the majority of wounds are slight—his wound is dressed, and within a short time he is back to the fighting line again. The wound is dressed by the regimental bearer. If the wound is severe, it is attended to by the regimental surgeon, whose post is as near as possible to the fighting line.

It may be in a third trench, and in a trench nearest the enemy. It may be in a fairly protected place if you can get a protected place, but we do not always get that.

During the Somme battle it was my privilege to care for the wounded soldiers in a place that was covered only with corrugated iron, with a little wood and some willow branches, and a few blankets. They were afterwards carried to the dressing station, or in some cases to a dugout. In some of the dugouts we had it takes twenty-nine steps to get to the bottom of them. When a heavy battle is on, the wounded soldier from the front is carried into such a place as that. Suppose he has a compound fracture of the thigh or arm or injury of the head or of his abdomen, he will be carried there and put as much as possible at rest. There is no surgery done by the regimental aid posts. I never saw any done. I can only conceive of such surgery being done in very rare cases, except purely emergency first aid work.

One of the difficulties I have in explaining to men to whom I lecture on this type of surgery, is in taking wounded from the front line to the base hospital. There is so much misconception in regard to it. Coming from the front line, only first aid can be rendered to the wounded. Very little or nothing else can be done there. What can you do when standing over a man dressing him on a stretcher when there is a terrible concussion from shells dropping not far away and which may strike in your path and disconcert you in what you are doing? You are thrown off; you may have to get on the other side, and go to it again. That is all you can do, carrying on your dressing work as best you can. You may be put out of business temporarily by bursting shells around and near you. It is entertaining work dressing wounds at the regimental aid posts, but the type of work is purely first aid. We had our share of dressings. You have a fair amount of material, if you can get it up, for splints, for dressings, and you put on a thing you probably had never put on before. You are advised in textbooks never to put on a tourniquet, as it is unsurgical and unscientific. I am quite sure that there is one man to whom I shall refer as the greatest of American surgeons—I make no exception when I refer to that man, who was a hero in this Southland—Dr. John A. Weyth of New York—who, if he were there, would put on a tourniquet. I am sure that is what you would do, and send the man back. There is one danger, however, and that is a man may go too far and the tourniquet be left on too long. When a wounded soldier is dressed and the hemorrhage is controlled as far as possible, if there should be a spurting vessel, you tie it if you can.

Another thing: In dealing with wounds you are told not to do so unsurgically and unscientifically. You will do the best thing you can do when you are up there, and a man accomplishes the most things in the front line who knows how to do the best thing in the quickest possible way. I would like to make a suggestion here. There is one key that unlocks all military surgery, and that is the word "evacuation." You have your regimental aid posts, and after a wounded soldier receives aid he is carried back farther to the advance dressing station or advance aid post by ambulance bearers. In time of trouble, it is also very good business to go out with the regimental stretcher bearers and bring in the wounded from different points.

You would like to know about the regimental surgeon's office. It is mostly nothing except a post job. If it is a busy time, he will have plenty of work to do in directing his aids what to do here and what shall be done there, and I may picture to you here our experience. During the heavy stress in the Somme in September, going around with this advance aid post, the wounded are carried by the ambulance stretcher bearers from the regimental aid post, or the regimental aid post is close to the line, and a few yards back, 500 or a thousand yards, is the ambulance aid post or the advance dressing station. Patients are carried there by the regimental stretcher bearers. Those who can walk, or can walk by the aid of another, must walk, and so they are guided. If possible, you secure Red Cross assistance, carrying them back to give you advance ambulance aid posts. I had several under my care. At about 3 o'clock one morning we were crowded. The dying, dead and wounded were about us. Ambulances were going by; ammunition wagons were going back and horse ambulances were going by, crowding us in such a way that as my patients lay on the stretchers the horses attached to the ambulances began to tramp upon the stretchers where my patients were lying about my feet. You can picture to yourselves how much surgery you can do at that particular time. You only render to the wounded that assistance which you think is absolutely necesary for the time being, and make them as comfortable as possible.

We get abdominal wounds, fractures of the thigh or arms, chest wounds, every conceivable injury that a man can imagine, and many injuries that men could not possibly imagine. The wounded are carried to the ambulance from these points and sent to the main dressing station or to one of the field hospitals.

The field hospital, as well as the evacuation hospital, is bound to be greatly modified. You simply at the front line dress patients in that way and send them back to the main dressing station, where the dressings are taken off, or to the field hospital. There the patients are carefully examined and whatever is absolutely necessary is done. You do no amputations on the field except the amputation that you do with a pair of scissors. If a soldier's leg is so nearly off that you can snip it with a pair of scissors, you do it, but otherwise you do not.

Our field hospitals will become advance dressing stations. Here antitetanic serum will be given ,and those who can go back to the fighting line will be sent there. Here all emergency work—and by that I mean strictly emergency work—will be done. Vessels will be tied and other things done. May I suggest one thing to any of you who may go over there: Study carefully and be familiar with your arterial lines and your anatomical lines. You may be an artist in the abdominal cavity, and you may be an expert in operating on the brain, but you are not worth the powder to blow up the front line if you do not know your arterial lines and cannot get down to bleeding arteries in a hurry and tie them. I venture to say that men who graduated thirty years ago know more of practical applied anatomy than the men who are coming up before me from some of our best schools. I want to say in this connection that nine men who came to me fresh from the finest institutions of learning could not tell me the muscular guide to the carotids and did not know how to identify the external carotids. If I had found one or two of that kind, I would not have been surprised, but I have found scores of them, and to reach the climax one of the men assured me that one of the branches of the external carotid was the superficial circumflex iliac. (Laughter.) It is wrong, and there are plenty of witnesses who will confirm what I say. Ligations must be done. While in civil practice one seldom ligates vessels in continuity, out on the battle front and at the stationary and base hospitals you will find it is a matter of routine, and secondary hemorrhage, which you seldom see at home, crowds you there.

Having the patient at the field hospital or main dressing station, what happens to him there? As soon as he is dressed and cared for there, the next day the medical officer has to get the patient back as rapidly as possible where he can put him to bed, and the casualty clearing station, or the evacuation hospital, which is from six to nine kilometers from the firing line, does not mean it is out of range of shells. We have casualty clearing stations at rail heads where the supplies come up, and our enemies will remember us by trying to get our lines of communication, and that is why casualty clearing stations have been damaged by the Germans. That is why you have heard about the bombarding of our unit over there, and some of our people in the Harvard unit were injured. I have always had in mind when these things happened that the Germans had a good excuse—I will not say reason—for bombarding these places, and I found out why such places were bombarded. When the Allies made a mistake and bombarded a German Red Cross train, the enemy did not hesitate to turn reprisals on us. That is their business. They dropped papers and information telling us why that was done. The casualty clearing station, while it is out of the line of fire, is still not out of the range of bombardment. There is no particular accuracy of fire. I heard a gentleman lecturing in Philadelphia the other day who assured his audience that the gunners were so accurate over there that they could strike a two-foot target at ten or twelve miles. There was no use in saying that was not so; he had been in France and at the base hospitals, and knew all about it. (Laughter.) Our casualty clearing hospitals are about six to nine or twelve kilometers from the line, and there patients are gotten as rapidly as possible. Where we have desperate cases we feel that they ought to have a chance at least, and we try to give them that chance. We send them in from our main dressing station and push them on to the casualty clearing station as quickly as possible. Men are sometimes taken to the casualty clearing station if they fall in the front line, but that is unusual. However, it has been done. As we get our lines of communication perfect, that thing will be done at the casualty clearing station.

I have been asked what the surgeons do. I will simply cover that by saynig they do everything in the way of operation that they can possibly do in the time of stress, and in times when it is quiet you can be sure that cases that need not operating on will not reach the base hospital. The casualty clearing station men will take care of it. On the other hand, in times of great stress there is absolutely no chance to operate any more than in cases that have to be operated on, and sometimes there are many patients that slip through that ought not to slip through, back to the base hospital down by the sea or large city. I might say, further, that serious cases, desperate cases, are cared for last at the front. A case of slight injury is cared for first wherever it is possible. Do not misunderstand me. As far as possible, the seriously injured are gotten back quickly. Take a man who has a compound fracture of the thigh, or who has an abdominal or head wound, there is no use in operating on him at the time. When you have a man who is only scratched up, you can put a dressing on him and send him back to fight. This seems a cold-blooded business, and whatever your sentiment and desire may be, and it may break your heart to do things you have to do, but you have got to do it. Your business in war is not to save life; your business is to care for fighting men and to eliminate the impediments just as fast as you can, and there is nothing in military surgery that does not point to that one word I gave you-- ''evacuation.'' Get your men to the fight, or get them back where they are soon fit to fight, or get them out of the army. And so in our training to care accurately and delicately for plastic work I think we make a mistake. We are not going to leave the final work to be done in France. You men who are doing splendid work in America; you men who possess the wisdom of the ages here at these society meetings; you men who can go into infinitesimal detail, are not the fellows who are going to do that sort of thing. I have heard military surgery described as sawmill surgery. It is not cabinet shop surgery by any means. And so the cases that are going to require long treatment; the cases that are going to require secondary treatment, are we going to keep them in France? How can we? The British could not, and how can we? We will soon need ships to send these men back to do whatever is necessary for them. In this country we have splendid hospitals in which these men can be taken care of. Every single case that won't be fit to fight in a little while will be sent back to America, and those that are to be eliminated will be eliminated from the army.

The desperately injured are placed, if possible, in wards or in a room by themselves, and this is designated the resuscitation room, and there at the front line is where we have most cases, and the question will arise whether it is possible for us to do anything for these badly injured men by treatment. The treatment will consist of warmth or heat. Heat is the great thing internally, externally and eternally. You give them stimulants. There are patients to whom you cannot give opiates. Where you can, you do so to relieve suffering. Sometimes when we think they are going to die, they improve and live. They are splendid fellows, and whether they live or die you hear very little complaining. They are the heroes of the earth.

There is one type I did not speak of last night, and I had better do so now. I want to say a good word for the nursing sisters at the casualty clearing stations. We call them sisters over there.. That does not mean that they belong to any special order. It simply means they are trained nurses, and whether they come from London or Edinburgh, Chicago, New York, New Orleans, St. Louis, or Memphis, they are sisters, and they are giving most splendid service that any one could imagine. As I have tried to express it in some of my lectures, if they are not the salt of the earth, there is no such thing as sodium chloride—the Almighty never made any. (Applause.) I have seen them caring for the wounded at Lemnos; I have seen them doing the same thing in Egypt and in France; I have seen them rendering heroic service from a casualty clearing station to the discharge depot, and there is no tribute I can lay at their feet other than to tell you of the splendid service rendered to the soldiers, and their governments will surely not forget them in the day of peace. I have seen them in the cold, when they had to dress in the cold, go to bed in the cold, and no fire, not a bit of it, for weeks together in that chill northern France. You hear of sunny France. Forget it! Absolutely, forget it! I spent nine months and a half there and never saw a cloudless day in France. There may be some sunshine in the south of France, but compared with my own state of Missouri, or with sunny Tennessee, or with sunny Georgia, there is absolutely "nothing doing."

The one thing that appealed to me most when I came back and went to Washington and then down to Georgia was Gods' sunshine and the blue sky, and every time I woke up I used to think my people would wonder why I am like a boy all the time. I was looking at the gift of God Almighty, the sunshine and the blue sky, and you will appreciate that when you perhaps have seen no sunshine for twenty or thirty days, as is sometimes the case in northern France. You now know what I mean when I speak of the nurse working in the cold. They never complain. They stick to their work, giving their very best efforts.

At the casualty clearing station the cases as they come in are assigned to different wards, and are under the observation and care of different operators. Men of necessity become not only general workers, but become specialists. They have to. Perhaps you would like to know how that occurs, but it will not be so in our army, because we have a better system. At the beginning of the war this sort of thing existed: Men were appointed surgeon's specialists with absolutely no qualifications along surgical lines. Those of you who are familiar with medical literature doubtless read of the death of that great neurological surgeon, Sir Victor Horsley. He was sent out by the British government to Mesopotamia, and was rendering service there which had practically no relation whatever to his wonderful qualifications and great skill. And we did that everywhere. Men who are qualified to do surgery were treating dysentery. On the Red Cross ship Delta, when they began to bring the seriously wounded off the peninsula at Gallipoli, there was on the ship a surgeon specialist a man drawing that pay, who had for his aid a young friend of mine. He was Lieutenant-Captain Montgomery, from near Winnipeg. He was assistant surgeon. He graduated from one of the small medical schools in Canada. He had never had any training in surgery. He told me this. There were seven cases of penetrating or perforating wounds of the abdomen, and he said: "My surgeon specialist came to me and said, 'For God's sake, Montgomery, operate on these cases. I never could open the belly without getting sick at my stomach.' " (Laughter.) He was purely a medical man, never had done anything else, and I can imagine he did not know any too much about medicine. He was drawing a surgeon specialist's pay. I said: "What did you do, Montgomery?" He replied: "I operated on them. I drained them." "How did you drain them?" " I filled them full of gauze." I said: "What happened to them?" He replied: "You know damn well what happened to them." (Laughter.) If these seven patients were given a chance, one might have survived, or two might have survived. As Montgomery said to me, "I never had the chance to do any surgery. I never had the opportunity. I wanted to do something;" and so he did something. Nevertheless, that man became a surgeon, and a pretty good one, later on, for he had charge of a magnificent ship, by going to it and doing it.

It was wonderful how many experts we found there who in civil practice never did any more surgery than to take off the distal phalanx of the little finger or something equally serious, maybe extracted a tooth, and they wanted to do surgery. (Laughter.) We are eliminating that sort of thing over here. When a young man gets into camp now he is carefully looked over, and we do not take him strictly at his word, because we find that the modest fellow has usually done a great deal. One man came up and told me he was very much put out because of the low mark given him in his surgical examination, and I told him to get that off his stomach and he would feel better. I said to him, "You are rated in Washington as an expert operator." He said, "Of course; you would not report me at all." I told him I remembered his name; that he was born and educated in Kentucky; that he practiced in a town of 30,000 inhabitants; that he had done and was still doing surgical work. I asked him what he would like to do, and just what he was fitted for, and in about two days there after he told me he had received his orders to become surgical chief of one of the organized base hospitals, and was as happy as any man could be.

We are finding out fellows, but in the beginning of the war it was not possible to find them out, and so men were literally thrown into operating who had absolutely no qualifications for so doing. These things are a part of the volunteer army. They are being rooted out. I would not for a moment cast any slurs on the service that has been rendered in France and England under the conditions they had to meet. America will profit by the experience of France and of England, and I am sure our equipment will be splendid and the service rendered will be fine.

As to head cases, I would like to go into detail regarding this, but it would take the afternoon. With reference to abdominal cases, I would like to go into detail regarding these, but it would consume too much time.

Perhaps fractures may interest you a little, but you men who know abdominal surgery do not need to be told very much how to treat these cases over there. You men who do head surgery do not need to be told the details, because you know more than I do, but in the matter of fractures, we handle them a little differently from what you do at home. We do not use plaster of Paris. Plaster of Paris does not dry quickly enough, and it is very seldom we can get a good make of it as in the mountains of Colorado. I have used plaster of Paris in the St. Louis valley from cotton pine put on the shelf to dry, and it dries nicely, but it does not do that over there. I have tried plaster of Paris, but no more for me, except in very selected cases where you can test the plaster of Paris. There is another objection to plaster of Paris, and that is, it becomes filthy very soon. You will have cases coming in from the front that have been delayed in transit and you are not able to take the cast off quickly, on account of the peculiar kind of plaster, and when you split it open you will find an enormous colony of hundreds and thousands of pediculi chasing each other around the block in there. (Laughter.) If we do not use plaster of Paris, what do we use? We have standardized a set of splints, and there is one splint I would like to talk to you about, and if any of you are not familiar with it, I would advise you to be. If you cannot steal one, you can easily make one. Take a ring of 25 to 28 inches of rope, with a four-inch brace at the end, bound together, 42 inches long on the inside and 47 inches on the outside, and that will give you a Thomas splint. I was not favorably impressed with it when I first saw it, but I have used it hundreds of times in compound fractures with very satisfactory results. I have heard men say that the Thomas splint does not deliver the goods. It does deliver the goods, and it is the one thing you will become attached to in your work on the battlefield. It is easy to apply. It has a self-containing extension apparatus, and that is one absolute necessity when you are dealing with fractures by splinting at the front line.

Knee cases require splinting. Compound fractures need to be splinted. I should mention that the first thing with every single knee case is to put on a back splint and put the knee at rest. I have had some experiences that I do not like to think about, because in the early days we knew nothing practically about knee joint troubles.

A Member: Tell us about the Carrel-Dakin solution.

Major Bell: The Carrel-Dakin treatment of wounds has been advertised as extensively as any line of treatment, but members of the medical profession differ as regards its value. I would cast no slur on the Carrel-Dakin treatment, except to speak of it for what it is worth. It has proven a valuable treatment in the hands of those who have used it extensively, and who have had the proper facilities for its use. There is no time for throwing bouquets at a thing when it has done good work. At the casualty clearing station the Carrel-Dakin treatment has practically no place. At the base hospital it is of value. If you can have plenty of nurses who are qualified to do the business and with good oversight, the Carrel-Dakin treatment will stand by you splendidly; but when you want the Carrel Dakin treatment to do the real thing, it is not on the job, and so until we have got something to take its place, until we have something where it can be used like the Carrel-Dakin treatment, we must use the Carrel-Dakin treatment. I only had a few nurses I could trust to carry on that line of treatment, and my experience with it has been restricted to a few hundred cases—not enough on which to base a reliable personal opinion. I saw many hundreds of other cases in which the Carrel-Dakin treatment was resorted to, but I would not care to express an opinion as radical as one individual who, after he had treated 87 very light shell wounds by the Carrel-Dakin method, knew all about the business. (Laughter.) After seeing so many cases in which the Carrel-Dakin treatment was used, I do not care to express even today a definite opinion regarding it. Personally, I like to see these cases well scrubbed up and absolutely let alone, using plenty of soap and water with which to do the cleansing. I would clean the wounds thoroughly, remove all devitalized tissue, put the wounds at rest, whether they be wounds of bones or of soft parts, give the patient a chance, and be as conservative as you can consistent with good judgment. There are a number of cases you cannot operate on that get well in spite of you, and these will lead you to a very philosophical state of mind, and you ask yourselves the question, how many of these that you went after so radically, some of which you put under the ground, would have done well if you had left them alone, or, at least, had not been nearly so energetic in your interference? My advice is to clean them up, close them up, give them rest, and they, with the help of the Creator, will do the rest.

OBSERVATIONS REGARDING NEUROLOGICAL SURGERY, AND ESPECIALLY THE DIAGNOSIS AND TREATMENT OF BRAIN INJURIES*

By William Sharpe, M. D.,
Professor of Neurological Surgery, New York Polyclinic Hospital and Medical School, New York City.

The field of neurological surgery has so broadened during the past fifteen years as the result of the pioneer work of Horsley, Von Eiselberg and Krause, and in this country of Cushing, that a number of neurological conditions which were formerly considered hopeless are now amenable to improvement at least, and in some cases even a cure may be expected. This advance has been due chiefly to earlier diagnosis, an improved surgical technique, and surgical judgment, and to better teamwork between the surgeon and the neurologist.

Earlier diagnosis of many intracranial conditions is now possible mainly as the result of the more general and intelligent use of the opthalmoscope; it is now commonly recognized and appreciated that the condition of marked papillodema and "choked disks" is the end result of pre-existing pressure signs observable in the fundus of the eye.** No longer is it necessary to wait until a measurable papillodema occurs before it can be definitely stated that an increase of the intracranial pressure is present; besides the early fundal signs ascertainable by an ophthalmoscopic examination, the most accurate and definite test of an increase of the intracranial pressure is the lumbar puncture, using the spinal mercurial manometer. In this manner the ophthalmoscopic findings can be confirmed. Intracranial localization has been greatly facilitated by the most thorough neurological examinations, and yet in many patients the localizing signs are so obscured by the increased intracranial pressure that they can be easily overlooked and they may even be absent. The importance of examining these patients early is obvious. No patient should be allowed to develop a secondary optic atrophy and its resulting blindness while an effort is being made to localize the condition—an unimportant consideration in many patients; an early cranial decompression will save the eyesight and frequently the lesion can be localized later. X-rays are of much assistance in the diagnosis of many cranial and spinal lesions; by this means long-continued intracranial pressure signs may also be determined and frequently the site of the lesion indicated; a negative picture, especially of the skull, however, means nothing, and frequently the interpretation of apparently positive plates is most difficult and at times confusing. Naturally, in cranial and spinal injuries, the value of the x-rays is very great indeed, especially regarding accurate diagnosis, and yet the treatment of such conditions, particularly of brain injuries, depends upon the presence or not of an increased intracranial pressure, whether the skull itself is fractured or not; whereas, in the spinal injuries the chief concern is whether the spinal cord has been irreparably damaged or not—the spinal fracture being of little importance neurologically, so far as the treatment is concerned, unless the vertebral dislocation is so great that the spinal cord must have lost its continuity.

---

*Read at annual meeting of Tennessee State Medical Association, Memphis, April, 1918.

**Archives of Ophthalmology, Vol. xlvi, No. 4, 1917.

An improved surgical technique especially regarding the teamwork between operator and assistants has been a large factor in lowering the mortality of neurological operations; not only is the rapid loss of blood avoided, the duration of the operation lessened and thereby the shock minimized, but the risk of infection is also proportionately diminished to a point practically nil. Naturally, intracranial operations should not be hurriedly done, but they can be quickly and at the same time smoothly and safely performed. There is surely no advantage to be obtained in prolonging the operation either on account of faulty technique or as a result of such a complicated technique that the final closure of the wound is delayed many minutes. It is rarely necessary for the team to consist of more than the operator, two assistants and a nurse. The anaesthetist is a most important member, and many disasters in cerebral surgery have been due to faulty anesthesia.

The third important factor in the progress of neurological surgery during the past decade has been due to a better understanding of the neurological condition at operation, both by the surgeon and the neurologist at his side. Formerly, the surgeon knew little, if any, neurology, and the neurologist knew little, if any surgery. The result was poor teamwork, and thus frequently the surgical judgment was not the best. Today the surgeon should have at least a practical knowledge of neurological principles, both anatomically and physiologically. Naturally, a training in neurological pathology is most essential. In this manner a number of mistakes in surgical judgment may be avoided. If the patient cannot be benefited, by no means make the condition worse by an operation.

One of the most important aids to an increased knowledge of neurological lesions, particularly of the brain and of the spinal cord, has been the observation of the living pathology at operation, and if death should occur, then the careful study of the tissue itself at autopsy. During the past three years, a permission for autopsy has been obtained before operation in each of my cases of neurological surgery (both ward and private patients), no operation being performed unless the permission is given in writing, so that if a death should occur, then we shall ascertain the cause of death, and also the accuracy of the diagnosis and the treatment for the benefit of future patients. Naturally, when an operation is advised, it is in the belief that the patient will not die, but if the patient should die, then it is absolutely essential for the benefit of other patients that we ascertain the cause of death in order that possible similar mistakes at least may be avoided. I know of no means so enlightening to the doctor regarding the accuracy of diagnosis, particularly of intracranial conditions, than the post-mortem examination; besides, the benefit of such knowledge to one's future patients, there is a marked tendency for these examinations to make the doctor humble as to his real knowledge and to keep him in that mental attitude.

If neurological surgery consisted chiefly in the removal of brain tumors it would be indeed a most discouraging field of endeavor. As you know, almost 80 per cent of tumors of the brain are malignant and even though a surgically successful removal of the tumor is possible, yet the end results are the same—the pitiful condition of the patient is merely prolonged. The severe headaches, however, and the impairment of vision are thus temporarily relieved and even prevented by an early operative removal of the tumor. No patient should be allowed to become impaired visually from the increased intracranial pressure due to the growth of an intracranial tumor merely because the tumor cannot be located. These patients all should have an early decompression to relieve this increased intracranial pressure, so that the vision will be spared, and then if the tumor does locate itself, a successful removal of the tumor may be possible, and yet the patient is not blind. I wish to emphasize this point, as it is most discouraging to operate upon these patients of brain tumor who have become blind.

Tumors of the spinal cord, on the contrary, are much more favorable in that there is less liability of their being malignant; they can be more accurately located and are much more accessible surgically. The operation of laminectomy has become much less formidable within the past few years, so that an exploratory laminectomy of a suspected spinal cord tumor should always be advocated early in order to anticipate any permanent damage of a compression transverse myelitis. The frequency of benign dural tumors of the spinal cord is most hopeful.

The condition of brain abscess has always been a most grave one. It usually results from an otitis media with its subsequent involvement of the mastoid. The usual site is the contiguous temporo-sphenoidal lobe, and less frequently the adjacent cerebellar lobe. As lesions of the cerebellum can be much more accurately diagnosed than those of the temporo-sphenoidal lobe, therefore, if we can rule out a cerebellar abscess, then the site must be the temporo-sphenoidal lobe—a comparatively silent area of the brain, especially the right lobe in right-handed patients. Formerly, the otologists in cases of suspected abscess of the temporo-sphenoidal lobe would puncture the dura in search of the abscess through the "dirty" infected field of the mastoid. As all operations for brain abscess are really exploratory procedures, it is distinctly unsurgical to open the clean subdural spaces and to puncture the cerebral cortex itself through an infected area. If the abscess is not located (and this frequently happens), then the patient runs the big risk of a resulting meningitis, and thus the usual occurrence—the exitus of the patient. Besides, the dura should not be punctured blindly with a knife or puncture needle unless the dura has been opened so that it can be clearly ascertained whether an underlying cortical vessel is present or not. Many disasters from the resulting hemorrhage have frequently occurred from such procedures. It is much more rational surgically and a much better exposure is obtained to locate the abscess if the operative incision is made through the "clean" sub-temporal area, just as in a sub-temporal decompression, the vertical incision naturally being used. If the abscess is found, then it can be satisfactorily drained through the lower angle of the incision at the base of the skull; and if the abscess is not found, then at least a decompression has been performed so that the intracranial pressure is relieved until the abscess may locate itself clinically, and the great danger of a meningitis and infective meningo-encephalitis has been avoided. In my series of brain abscess cases there are a number of them which I am sure I should have missed surgically if I had not used the better exposure of the sub-temporal route.**

The condition of cerebral spastic paralysis occurring in children is a most interesting study. In 1843, Mr. Little of London, in his first monograph upon this subject, stated that these cases were due to a lack of development of the cerebral tissues and also to an earlier meningitis. He did mention, however, that this condition apparently followed in some cases of difficult and prolonged labor with or without the use of instruments, and was undoubtedly, in his opinion, due to an intracranial herorhage. It is very interesting to note that in his second monograph upon this subject, nineteen years later, in 1862, he states that, in his opinion, three-fourths of these cases of cerebral spastic paralysis in children are due to hemorrhage. These observations have been confirmed recently by more modern methods of diagnosis. It was formerly believed that hemorrhage in these cases caused a primary destruction of brain tissues, therefore no regeneration was possible, and thus an operative procedure would be of no value in treating the condition. Within the last five years I have had the opportunity of examining and treating personally over 1,600 children having the condition of spastic paralysis.* By the more accurate methods of differentiating the ones due to hemorrhage from those hopeless cases due to a lack of development and to a former meningo-encephalitis for which nothing really can be done, it is now possible to diagnose the ones due to hemorrhage from these two conditions by means of careful opthalmoscopic examinations of the fundi of the eyes and by a measurement of the pressure of the cerebro-spinal fluid at lumbar puncture by means of a spinal mercurial manometer. If the ophthalmoscope reveals the signs of a definite increase of the intracranial pressure and those observations are confirmed by the spinal mercurial manometer (the normal pressure of the cerebrospinal fluid being 5 to 9 mm. of mercury), then we have an increased intracranial pressure, and if this pressure is relieved permanently by a sub-temporal decompression and its modifications according to the condition of the underlying cortex as ascertained at operation, then a definite improvement results in these patients, both physically and mentally. In this series of over 1,600 patients there was an increased intracranial pressure in about 20 per cent of them; that is, in about one out of every five patients examined, and these are the ones, and only the ones, that can be benefited by an operative procedure. I have now operated upon 339 of these children with a mortality of 34 patients (that is, 10 per cent), and the results have been very encouraging. Naturally, the younger the child, the better the prognosis, the first few days of life being the ideal time for the operation, although most of the children have been between four and six years of age. The oldest patient, however, was 23 years of age, and a slight improvement resulted. Naturally, a sufficient period of time has not yet elapsed for us to ascertain the ultimate condition of these patients following operation, but their improvement has been so uniform and continuous in the younger children and the pathology of the condition being a hemorrhage upon the cerebral cortex and not *in* the cortex itself (in only 18 patients was the hemorrhage in the cortex or beneath the cortex), so that both the physical and mental impairments are merely the secondary results of the increased intracranial pressure due to this supracortical hemorrhage.

---

*New York State Journal of Medicine, October, 1916.

**The Laryngoscope, St. Louis, March, 1914.

The condition of hydrocephalus has been a very interesting one in that it has now been ascertained that the type of internal hydrocephalus is comparatively infrequent and that the type of external hydrocephalus is the usual condition in these patients. They both result from an earlier meningitis (if we exclude the cases of internal hydrocephalus due to tumor formation at the base) and the condition is therefore a diffuse one. If the ventricles are blocked by adhesions or exudate in the aqueduct of Sylvius or at the foramina of Majendie and Luschka, then an internal hydrocephalus occurs, but if no such blockage is present, yet we shall have produced an external hydrocephalus because the cerebro-spinal fluid cannot escape from the cerebro-spinal canal through the blocked stomata of exit in the cortical veins, sinuses and lymphatics. The methods in the past and occasionally now advocated of connecting the ventricles with the subdural spaces by means of tubes are therefore of little or no value in the treatment of this condition; even though the lumen of the tube should remain patent (and it rarely does), and even if the condition is one of internal hydrocephalus (which is much more rare than that of external hydrocephalus), yet such an operative procedure will merely be changing the condition of internal hydrocephalus to one of external hydrocephalus, and therefore little or no improvement can be expected. The method recently used for draining the ventricles in cases of internal hydrocephalus and of draining the subarachnoid and subdural spaces in cases of external hydrocephalus by means of linen strands is a much more rational procedure surgically that many of the methods used in the past, and its results have been very satisfactory. In the last report of 41 cases, the mortality had been only thirteen patients.*

The condition of brachial plexus injury causing the so-called brachial birth palsy is the result of trauma to the plexus due to an overstretching of its nerves by a forceful separation of the head from the shoulder at birth. Undoubtedly, if the plexus had not been completely severed, but merely overstretched, then many patients recover from the temporary paralysis of the arm, but in those children where the overstretching has been so severe and even to a point of a loss of continuity of the nerve fibres, then a permanent paralysis of more or less degree will result unless the scar tissue resulting from the hemorrhage in and about the plexus is removed and the ends of the torn nerves are anastamosed by an operation. If the arm is completely paralyzed at birth so that not even the upper arm or the fingers can be moved, then the ideal time for the operation is at one month of age (no anesthesia being necessary). If, however, the fingers or the upper arm can be moved slightly at birth, then we should wait until three months of age, and if no marked improvement has occurred within this time, then the operation should be performed. In these children I usually have the mother bring the child to the hospital in the morning, operate upon it, and then have the child taken home in the afternoon. The operation is not a difficult one technically, and there has been no mortality in a series of 136 cases.* These patients should not be allowed to reach the age of six years and even older without an attempt being made to improve their condition by an operation. The best results have been obtained in children under one year of age.

---

*American Journal of the Medical Sciences, April, 1917.

In fractures of the spinal column I feel that unless we can prove absolutely that there is a complete severance of the spinal cord, or that the spinal cord has been irreparably contused, that we should give the patient the benefit of an exploratory laminectomy within a short time after the accident, in order to remove any bony compression, hemorrhage or oedema of the spinal cord, and thus increase the patient's chances of a greater ultimate recovery of function. So frequently in patients whom we consider to have suffered a complete severance of the spinal cord with complete loss of sensation and motion beneath the site of the injury, that after three months, six months and even longer they begin to recover their sensation and also motion of the extremities (a wiggling of the toes), formerly completely impaired. These patients are the ones upon whom an early laminectomy should have been performed, and thus the ultimate improvement would have been much greater than can be obtained at this late date. The operation of laminectomy is no longer the formidable operation of the past, and its use should be much more frequently advocated than at present. These patients are most pitiful ones—the end result, unless something can be done for them, being but a miserable existence of a few years.

The diagnosis and treatment of brain injuries has advanced most rapidly within the last few years.* The clinical symptoms and signs are so varied and frequently so confussing in these patients that it is a most fascinating field. Apparently in many cases the more extensive the fracture of the skull, the less seriously is the brain injured, and on the contrary, the most dangerous of brain injuries are frequently not even associated with a fracture of the skull. As is well known, the fracture in these cases (if we exclude depressed fractures of the vault, which should always be elevated or removed) is possibly the most unimportant part to be considered in the treatment, whereas the presence of a marked increase of the intracranial pressure, with or without a fracture of the skull, should immediately cause the patient to be withdrawn from that large group of patients properly treated by the expectant palliative method, and the advisability of an early operative procedure to relieve the increased intracranial pressure should be considered.

During the five years, 1913 to 1917, I examined and treated personally 489 adult patients having acute brain injuries, with or without a fracture of the skull. In only 155 of these 489 patients (that is, 31 per cent) were there marked signs of an increased intracranial pressure, and therefore only these patients were operated upon to relieve this increased pressure, whereas the remaining 334 patients did not show definite signs of an increased intracranial pressure and were therefore treated by the expectant palliative methods of absolute quiet, ice helmet and catharsis; if in shock, then the routine treatment of shock. It is thus seen that less than one-third of the patients having brain injuries, with or without a fracture of the skull, were operated upon, and approximately this same ratio has continued the past year. It is this careful selection of patients, not only in regard to the advisability of an operation or not, and if indicated, then the type of cranial operation used, but of the greatest importance—the ideal time for performing the operation; these factors have made it possible to lower the mortality of fractures of the skull from the average of 50 per cent of most hospitals to 28 per cent, and if we exclude the moribund patients dying within three hours after admission to the hospital from shock, internal injuries and in many cases the fracture of the skull being but an incident in the patient's general condition, the mortality is lowered to only 19 per cent.

In the treatment of brain injuries, with or without a fracture of the skull, if the patient is allowed to develop definite paralysis, a lowered pulse rate, Cheyne-Stokes respiration and pulse, and that appalling group of extreme intracranial pressure signs, then I agree entirely with the opinion so commonly now held that these patients "get along" just as well without operation as with operation at this late stage—the mortality being 50 per cent and over; but the patients with brain injuries should not be allowed to reach this dangerous stage of medullary compression due to the high intracranial pressure—it should be anticipated by the acurate diagnostic methods now known, and if a marked increase of intracranial pressure is ascertained, then an early relief of it should be advised, not only to save the life of the patient, but to lessen the post-traumatic conditions of changed personality, either of the excitable or of the depressed type, persistent headaches, early fatigue, occasionally epilepsy and that long train of post-traumatic conditions in brain injuries, and due, in the majority of cases, to a prolonged increase of this intracranial pressure.

---

*Journal of the American Medical Association, March 18, 1915.

*Journal of American Medical Association, May 13, 1916.

Besides the lowered pulse and respiration rate, which are comparatively crude signs of intracranial pressure, and if of the irregular Cheyne-Stokes type, then most late signs of extreme intracranial pressure, with its resulting medullary compression, the two most valuable procedures for determining a definite increase of the intracranial pressure are the examinations of the fundi of the eyes with the ophthalmoscope and the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture by means of the spinal mercurial manometer.

Although it is rare for a measurable papilloedema and "choked disks" to occur in these cases of traumatic intracranial lesions, with or without a fracture of the skull, yet the earlier and therefore milder degrees of an oedema of the optic disks should be most carefully "watched for" with the ophthalmoscope as being an accurate sign of the presence or not of a definite increase of the intracranial pressure; the ophthalmoscope, and especially the direct method, is a most valuable means in the diagnosis of cranial lesions. Rarely do these fundal examinations reveal an increased intracranial pressure within six hours after the head injury. This is due to the presence of shock in these patients, who later exhibit the marked signs of intracranial pressure. As head injuries are usually accompanied by shock of varying degrees, naturally in these cases the blood pressure is low, so that even if a large intracranial vessel was torn, yet there could be only a comparatively small amount of hemorrhage, because the resulting increased intracranial pressure would soon be greater than this lowered blood pressure of shock, and therefore the bleeding would cease. However, as the patient recovered from the condition of extreme shock, then the blood pressure would rise, and now more bleeding could occur intracranially until the intracranial pressure would again equal the lowered blood pressure. Finally, if the patient survived this condition of shock, then the blood pressure would be continuously greater than the intracranial pressure, so that this resulting increased intracranial pressure would produce its characteristic signs in the fundus of the eye—a dilation of the retinal veins, and an oedematous obscuration of the temporal halves of the optic disks; a measurable papilloedema and "choked disks" occur in these cases only when the intracran. ial pressure is extreme, due to a large intracranial hemorrhage of slow formation, such as the extradural middle meningeal type—just as in brain tumors or when the ventricles are blocked, producing an internal hydrocephalus. Naturally, if the intracranial hemorrhage forms very rapidly and of large amount, the patient usually dies within a couple of hours, so that "choked disks" have very little time to be produced; again, the shock following head injuries usually lasts for about six hours in the patients who survive, and therefore it is rare within these first six hours for the ophthalmoscope to reveal definite signs of an increased intracranial pressure. It may be also noted that the patients who do not survive the condition of shock usually die within the first six hours. It is therefore of the greatest importance to recognize these early signs of increased intracranial pressure by re-repeated ophthalmoscopic examinations, and to realize that these oedematous blurrings of the optic disks are more than being merely within physiological limits. It is true that in cases of myopia, there is normally an obscuration of the disk outlines, but these patients can be excluded by the second and following test, which should always be performed.

The most accurate means now known for ascertaining the presence or absence of an increased intracranial pressure is the measurement of the cerebro-spinal fluid at lumbar puncture by the spinal mercurial manometer. It is similar to a blood pressure apparatus, as safe as a lumbar puncture when properly performed, and by it the varying degrees of intracranial pressure can be carefully recorded. The normal pressure is 5-9 mm. of mercury, so that if a pressure higher than 15 mm. is obtained at lumbar puncture, then we know that the signs of intracranial pressure, as shown in the fundus of the eye, are confirmed. This method of estimating intracranial pressure is most important in the differentiation of the intracranial condition of spastic paralysis due to an intracranial hemorrhage at birth from those other causes of the so-called Little's disease. In other intracranial conditions producing the extreme stages of papilloedema and "choked disks," and even their end results of secondary optic atrophy, as in neglected cases of brain tumor, naturally it is not necessary to confirm the ophthalmoscopic findings in order to make a diagnosis of an increased intracranial pressure. If, however, in these traumatic lesions of the brain, we must wait until a "choked disk" results from extreme intracranial pressure in order for us to state that the intracranial pressure is high, and if we must wait for the pulse rate to descend to 60 and below, and the respiration and pulse to assume the irregular Cheyne-Stokes character of medullary compression, then undoubtedly the mortality of these patients will be 50 per cent and even higher. Patients should not be allowed to reach this dangerous stage of medullary compression—this stage should be anticipated—and it can be by repeated ophthalmoscopic examinations and the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture.

In selected cases of mild intracranial pressure due to trauma, very frequently the convalescence can be shortened, the headaches relieved and the general condition of the patient greatly improved by lumbar puncture, and, if necessary, repeated lumbar punctures. Not only will the oedematous "wet" condition of the brain be drained in this way, but a prolongation of the increased pressure be avoided, and therefore the definite danger of post-traumatic conditions, so common in these cases, be lessened. Naturally, this method is only applicable to mild selected cases, and lumbar puncture should never be advocated as a means of drainage in patients having high intracranial pressure or in subtentorial lesions, for fear of a consequent medullary compression in the foramen magnum.

We now come to the most important and the difficult question in the treatment of brain injuries with or without a fracture of the skull: 'If an operation is advisable, when should it be performed?" This question can more easily be answered by stating the two periods when the operation should *not* be performed. Naturally, we must exclude the majority (about two-thirds) of patients having fractures of the skull who do not have a definite increase of the intracranial pressure, and therefore no operation is indicated. (The depressed fractures of the vault naturally should always be elevated or removed.)

The two periods in which an operation is distinctly contra-indicated in cases of brain injury are, first, the condition of severe shock in the very beginning, and secondly, the condition of medullary collapse—the death knell of the patient. To advise a cranial operation upon a patient—no matter how badly the skull is fractured, nor how extensive the intracranial hemorrhage seems, and that patient is in the condition of severe shock with a pulse rate of 130 and higher, then the operation at that period of shock takes away whatever chance the patient may have of surviving the shock; the operation is but an added shock and merely hastens the exitus. No patient having a brain injury should be operated upon in this condition of shock; the mortality is most high, and if a patient does recover from an operation in this period of extreme shock, then he recovers *in spite* of the operation. Cranial operations for brain injuries in this stage of shock were frequently performed in the past, and most disastrously, and thus cranial operations were almost discredited in the treatment of brain injuries. The natural reaction following these early operations in the period of severe shock was to wait until there could be no possible doubt that the patient was going to die unless, as was thought, a cranial operation was performed; that is, the patient was permitted to reach the period of extreme medullary compression—a pulse rate of 50 and below, irregular Cheyne-Stokes respiration and pulse and profound unconsciousness, before a cranial operation might be considered. This is a most dangerous stage for these patients to reach, and it is doubtful whether recovery can occur, even with an operation at this period—the mortality being very high. But if the patient has struggled through this period of medullary compression, and finally reaches the stage of medullary oedema, when the pulse rate begins to ascend quickly to 120, 130, 140, and higher, respirations become rapid and shallow—that is, the stage of medullary collapse—then we have the second period when no patient should be operated upon—they all die, operation or no operation. I feel that if these two extremes can be avoided and the latter of these—medullary collapse—can certainly be anticipated in the operative treatment of brain injuries, and their signs cannot be overlooked, that the rational treatment from an operative standpoint depends upon the presence or not of a definite increase of the intracranial pressure, whether there is a fracture of the skull or not. In some of the most serious cases no fracture was present, either to be ascertained at operation in the operated cases or at autopsy. The aid of the x-ray is important in the treatment of these traumatic cases only in patients with doubtful depressed fractures of the vault and in latent fractures of the skull, where the bump is so apparently trivial that the patient might not be so carefully examined and treated as the condition would warrant. On the contrary, no patient with high intracranial pressure should be obliged to wait "overnight" or for a period of hours merely to secure an x-ray picture of the skull. It is of no importance in the treatment of these acute intracranial lesions whether a fracture is present or not. If there is a high intracranial pressure, as shown by the ophthalmoscopic examination, and by the measurement of the pressure of the cerebro-spinal fluid at lumbar puncture by the spinal mercurial manometer, then a cranial operation is indicated to relieve this increased intracranial pressure both by enlarging the intracranial cavity and by the drainage of possible hemorrhage and cerebrospinal fluid. It is not so much a question of removing the hemorrhage as it is of lessening the increased intracranial pressure—whether that pressure is due to hemorrhage or oedema—the operative indication is the same. Many cases of head injuries at autopsy have revealed no hemorrhage at all—merely a "wet" oedematous swollen brain, but sufficient to cause medullary compression and the death of the patient.

If an operation is considered advisable to relieve the increased intracranial pressure, then the operation of choice is the subtemporal decompression and drainage.* If there are no definite localizing signs of the intracranial lesion, then the decompression should always be performed on the right side in right-handed patients in order to lessen thereby any possible operative damage to the adjacent motor speech area of the left cerebral cortex. In these cases, it is not so important to remove the hemorrhage as it is to offset its pressure effects. In cases of depressed fractures of the vault, showing definite signs of a high intracranial pressure, it is better surgical judgment to precede the elevation or removal of the depressed area of bone by a sub-temporal decompression, so that when the depressed bone is removed there will be little or no danger of the underlying cerebral cortex being damaged by its protrusion through the bony opening. As the subtemporal decompression exposes a comparatively silent area of the brain—a portion of the temporo-sphenoidal lobe—its protrusion and possible damage would not appear clinically, whereas a partial paralysis, impairment of sensation or of vision might occur, and frequently does result from operations performed over the more highly developed areas of the cerebral cortex. Besides, the sub-temporal route provides not only an excellent exposure of the middle meningeal artery and that portion of the brain so frequently involved in fractures of the skull, but it affords drainage to the middle fossa of the skull—the chief intracranial cistern—at its lowest point at the base of the skull. Again, the thinness of the squamous portion of the temporal bone makes the operation a less difficult one technically. The vertical incision (and not the usual curved incision) should be used not only to render the operative hemostasis more effective in that the trunk of the temporal artery is ligated at its lowest point at the very beginning of the operation, and therefore there is no bleeding from its branches, but this incision also permits the removal of the underlying squamous bone as far as is possible beneath the temporal muscle—and yet the attachment of the temporal muscle to the parietal crest is left intact, so that a firm closure of its separated muscle fibres is assured. This is a most important point in cases of high intracranial pressure, as in brain tumors, where a cerebral hernia or fungus might result from an imperfect closure of the temporal muscle. The insertion of silver and celluloid plates and other foreign bodies beneath the scalp is to be most strongly condemned.

---

*American Journal of Medical Sciences, April, 1915. No. 4, Vol. cxlix.

If the intracranial pressure is so high that the cerebral cortex tends to protrude through the bony opening, it is frequently wiser in selected cases to perform a similar operation upon the opposite side of the head, immediately after the first operation. I have been obliged to do this in only five per cent of the patients. They are the ones having a swollen oedematous brain—waterlogged, as it were—where the drainage of blood and cerebro-spinal fluid is slight and not sufficient to cause a marked decrease of the intracranial pressure. In some cases it is better judgment to wait for one or two days and even longer before the second operation is considered advisable. The rubber tissue drains are usually removed on the first or second day post-operative, and the hospital convalescence ordinarily requires at least two weeks. Naturally, these patients shrould not enter into their former active life for a period of three months and even longer. A too early return to the strain and stress of modern life predisposes them to many complaints, both subjective and objective. Repeated examinations of the fundus of the eye and of the superficial and deep reflexes are here most important in estimating the physical normality of the patient.

The end results of patients having brain injuries with or without a fracture of the skull have been an interesting study. It has become quite a common belief that once a man has had a fracture of the skull and then recovers, he is never the same person again. In 1912 I examined the records of three of the largest hospitals of New York City during the decade of 1900-1910. The mortality of fractures of the skull was 46-68 per cent; the mortality of the patients operated upon was 87 per cent—this high percentage due undoubtedly to the operation being postponed until the extreme stages of medullary compression and oedema, and also to the fact that the operation performed was the "turning down" of a bone flap—a much more formidable procedure than a decompression—and then the bone replaced so that even the benefits of a decompression were prevented; besides, in many cases, the dura was not opened, and as the dura is inelastic in adults, therefore no adequate relief of the pressure could possibly be obtained. Of course, the patients, however, who were finally discharged as "well" or "cured," I was able to trace only 34 per cent of them, but of these 34 per cent, 67 per cent of them were still suffering from the effects of the injury—that is, two-thirds of them were not as well as before the injury. The chief complaints were persistent headache, a change of personality of the depressed or of the excitable type, and thus emotionally unstable; early fatigue, making any prolonged mental or physical effort impossible, and thus the inability to work; lapses of memory, spells of dizziness and faintness, and even epileptiform seizures in a small percentage of them. In examining the hospital records of the patients having these post-traumatic conditions, it was most interesting to ascertain that these were the patients—and there were but few exceptions—who regained consciousness gradually after several days and remained in the hospital for a period of four weeks and longer, whose charts made frequent mention of the severe headache and a low pulse rate of 60 and in some cases below 60—that is, the usual clinical signs of an increased intracranial pressure. An ophthalmoscopic examination had rarely been made. Many of these patients still showed the results of the increased intracranial pressure in their fundi and at lumbar puncture, and these were the ones upon whom a cranial decompression even at this late date caused a marked improvement. The operative findings were always associated with a "wet," swollen oedematous brain. Many of the so-called post-traumatic neuroses are, in my opinion, frequently superimposed upon this definite organic basis as the result of the brain injury. The treatment, therefore, of brain injuries should not be limited merely to the recovery of the patient as far as life is concerned, but it should also be directed toward obtaining a normal individual—approximating, as closely as possible, the condition of the patient before the injury.

Besides these neurological conditions—conditions frequently benefited by operative procedures—there are still other ones in this field that can be only mentioned in the present paper. The excellent results obtained in those cases of persistent tri-facial neuralgia which, finally, after the failure of all medical efforts, have had the posterior root of the Gasserian ganglion severed, are possibly the most dramatic. The surgery of the peripheral nerves has also made a marked advance within the past few years, and especially is this true of the operative treatment of selected cases of facial paralysis. Of the other neurological conditions amenable to surgical treatment, this work is still in the experimental stage.

SURGEON-GENERAL GORGAS IS SIXTY-THREE YEARS YOUNG.

The *Washington Post* on May 7 is responsible for the statement that Surgeon-General Gorgas will reach the retiring age of sixty-four on October 3, 1918. Of course, this does not mean that General Gorgas will be retired in October, because no one would consider retiring a man who every day is demonstrating his youth and efficiency in a position of such great responsibility as that of Surgeon-General of the United States Army during the greatest war in history.

Those who are in a position to know, regard General Gorgas as second in efficiency only to President Wilson; and they marvel at the work he has accomplished in the past year. Only a young man in vigorous health could have lived through what the General has done since the war began. Office hours begin in his office at 9 o'clock, but General Gorgas is there by 8 or 8:30, and he is one of the last to leave in the afternoon. He walks to and from his work, more than a mile, every day, and he climbs up and down the seven flights of stairs in the Mills Building several times a day, because he likes the exercise and sometimes cannot wait for an elevator.

Years ago, General Gorgas demonstrated that the white man can live, thrive and accomplish as much in the tropics as in colder climates, if malaria and other tropical diseases have been eradicated. Now some are believing that he discovered somewhere on the Isthmus of Panama the fountain of youth that Ponce de Leon sought in vain in the sixteenth century. At any rate, it is believed in Washington, too, that the two best places of residence in the world for developing youth and efficiency are Princeton and Panama.

It is just possible that there exists in Jersey and Panama a variety of mosquito that transmits to those whom it bites the germs of youth and efficiency. This theory, however, does not seem tenable, because the French were bitten by mosquitoes in Panama and died by the thousands, and some are said to have been bitten by the Jersey mosquitoes, and all the inhabitants of New Jersey cannot be considered presidential timber.

President Wilson is somewhat younger in years than General Gorgas, and since he has one of the best doctors in the country to see him every day, to keep him well, he may be expected to continue his wonderful degree of efficiency for many years. General Gorgas is his own doctor, and he is engaged in keeping a million and a half boys and young men from catching measles, pneumonia, and some diseases that do not affect the respiratory organs, that afflict those who have not learned how to take care of themselves—and he is doing both jobs better than any man before him ever did. If one knows of the regular life and simple and abstemious habits of General Gorgas, he can understand how at sixty-three years he is younger than many men at forty. If all the soldiers lived the hygienic life that he follows, the Army sickness and death rate would be negligible, though it should not be forgotten that the morbidity and mortality rates among our troops are less than half those in the Spanish-American war, and are lower than those of any other army that was ever gotten together.

Of course, no one has considered it possible for General Gorgas to be retired during this war. Millions of mothers and fathers and other relatives and friends of our soldiers thank God every day that General Gorgas is directing the army of doctors who are fighting diseases that are as dangerous to mankind as the Huns. They feel comforted every day on realizing that Gorgas is safeguarding the health and lives of their boys.

Aside from the fact that there is no one who could so ably take the place of General Gorgas as Surgeon-General, the United States and the world owe him such a debt of gratitude that he could not be retired until his labors during the present war have been completed. His conquests over disease have been more brilliant and epoch-making than those of any general who has fought battles against man. Gorgas has brought health and happiness to millions, while wars against man have made countless thousands mourn.

The Gorgas in the Surgeon-General's office at Washington today is the same quiet, smiling, genial man who eradicated yellow fever from Havana for the first time in centuries. He is the same efficient genius in organization whose achievement in the sanitation of the Canal Zone, President Taft said, "made possible the completion of the greatest industrial undertaking in the history of the world." He is the same Gorgas, but with greater experience, whom the British Government sent for to go to South Africa to study conditions and advise methods for preventing pneumonia that was killing thousands of miners in the Rand and in Rhodesia. All these tasks which he accomplished prepared him for the great work in which he is now engaged; and history does not record anything more remarkable than the training, in less than a year, of the great army of doctors, nurses and hospital attendants who now protect and care for our sick and wounded soldiers in this country and France.

The wisest, the most considerate man in the world appoints the next Surgeon-General of the United States Army; and since President Wilson holds justice and efficiency in such high esteem, there can be no doubt of the reappointment of Surgeon-General Gorgas when his term expires, or when he comes to the age of retirement. If the President has not the legal right to appoint a retired officer as Surgeon-General, Congress will enact a law giving him that privilege. Our country and the world need General Gorgas too much for his retirement to be considered until we and our Allies have conquered the Huns.—Southern Medical Journal.

THE SANITARY DANGERS FROM DOMESTIC PETS.

A report on an epidemic of virulent smallpox in one of the Southwestern States, submitted to the Surgeon-General of the Public Health Service by one of the officers of that corps, sets forth with renewed emphasis the role that domestic pets may play in the transmission of disease, especially among children. The instance cited was that of a fatal case of smallpox in an infant in arms. The nearest case of the disease was in a house a block or so distant, and although the two families had no social relations, this apparently did not deter a dog belonging to the infected family from dividing his attention impartially between the two homes, eating at one place and sleeping at the other.

In no other way could the source of the infection of the baby be explained than that the dog fondled by the children of the smallpox family carried the virus of the disease to the neighbor's baby. Similar instances have been noted before in connection with smallpox transmission, and cats and dogs both have been incriminated as carriers of plague-infected fleas, cases of bubonic plague so contracted having been observed by Public Health Service officers working in recent plague epidemics. The same household pets also have been charged in certain instances with the responsibility of carrying the infection of diphtheria, scarlet fever and other communicable diseases of children, as well as various intestinal parasites.

A disease that annually causes more than 100 deaths in this country is rabies, and the role of domestic animals in spreading this disease is definitely proven, speculation or circumstantial evidence being discarded.

Altogether, therefore, it is perfectly evident that the citizen who keeps domestic pets maintains at the same time a very potential source of danger; a sanitary menace to his own household and to that of his neighbor. While this aspect of the subject applies year in and year out, it may well behoove the city dweller in these times of urgent demand for food conservation to seriously take counsel with himself as to whether he is justified in continuing to keep his dog or his cat, both of which are casual sources of mental annoyance to neighbors, as well as agents for graver potentialities.—U. S. Public Health Service Health News.

TRIAL TUBES OF CHLORAZENE.

It is interesting to learn that The Abbott Laboratories of Chicago are sending to physicians, on request, convenient trial tubes of ten Chlorazene tablets. In view of the growing importance of the Dakin discoveries, we suggest to our readers that they avail themselves of this generous offer.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

JUNE, 1918

EDITORIALS

WAITING ON THE OTHER MAN.

There are reports to the effect that men—young, able-bodied, well equipped men in the medical profession in some of our counties are withholding their applications for appointment as medical officers because, they say, other men of greater age in these counties have not gone into service. If these reports are true, there are slackers among us who need to be ostracised.

What has another man's action to do with the matter of determination of one's own duty? The man who affects to believe that he should not be expected to volunteer because some other has not volunteered is hiding behind an exceedingly thin curtain—a curtain through which all of his fellows and the people generally can easily see.

Who should go first? Certainly not the man who has lived the greater part of his life already, with fixed habits of living and fixed ideas of practice, who can hardly, if at all, adjust himself to the conditions of military service. Surely the man who has been engaged in the practice in his community for twenty-five or thirty years, if he is at all of the type that could ever have made good material for the medical service of the Army or Navy, is more needed in his community than the younger man.

But there is nothing to be accomplished by developing the subject further here, for the fellow who is willing to say that he is holding back because another has not gone will not be shamed by anything we can say to him in an effort to make clear the duty of the younger and physically stronger men of the profession.

BIRTH CERTIFICATES.

The Bureau of Vital Statistics of the State Board of Health is receiving more and more frequent requests for certified copies of birth certificates from the wives of soldiers. These certificates are of great importance now, because the support to which these good women are entitled from the Government is based upon their ability to furnish certificates of birth of their children. It sometimes happens—all too often, in fact—that the certified copies cannot be provided because the physicians who attended to births in question failed to file the certificates with the local registrars.

Certainly, the children and wives of the men who are fighting the battles of our country are deserving of all possible consideration at the hands of our Government, and certainly the Government wants to give them all possible consideration. Surely, they are no less deserving of consideration at the hands of the physicians whose duty it is, under the law, to promptly file certificates of births of all children delivered by them.

The ability of a child's mother or father or guardian to secure a certified copy of the certificate of birth may mean the ability to provide for the child against want; the failure to secure such certified copy of a birth certificate may mean that the child is condemned to suffer want. This one consideration should be enough to stimulate the doctors of the state to a careful and conscientious discharge of their duty, which is plainly and unmistakably set out in the law of the state.

There are many physicians in Tennessee who faithfully comply with the law; there are others who as consistently refuse to file birth certificates. The Registrar of Vital Statistics is required by law to undertake to institute legal proceedings against all physicians who fail to comply with its provisions. This he is going to do. It is the law.

THE TENNESSEE STATE BOARD OF HEALTH.

Conditions under which our people live today make necessary the maintenance of some organization, endowed by the state and acting under the authority of the state, with the purpose of putting into effect whatever methods of regulation and control may be necessary to safeguard the health and lives of the common people. The opportunities for useful service by state health departments are limited only by the support of financial nature, the strength of the laws under which they operate, the co-operation which can be secured by them from all from whom they have a right to expect co-operation, and the ability and earnestness of the men into whose hands the direction of their affairs is given. If strong financial support can be secured and if the workers directing the activities of a state health department are men with a sincere interest in public health for its own sake, with an intelligent understanding of the problems with which they have to deal, and with a singleness of purpose and a devotion to duty which will keep them everlastingly on the job, it should be possible for the importance of the work of a department of health and the helpful results to be obtained through it to be so clearly demonstrated that the enactment of necessary laws and the co-operation of the people generally would be easily secured.

In no section of the country are there as many problems affecting the public health which need to be attacked vigorously and persistently as in the South; and in no state in the South are there more opportunities for helpful service open to the state health department than in Tennessee. Those who are at all familiar with developments will probably be astonished when they learn of the tremendous growth of public health appropriations and of the tremendous increase in the scope of the work of the various Southern state boards of health. In some of them appropriations have increased fourfold, or even more, while the authority under which these boards work has been strengthened and extended to a wonderful degree. And the best part of the whole matter is this: Results are being gotten. Tennessee, while great progress has been made in certain directions, is far behind most of her sister Southern states, both in the matter of appropriations for public health work and in the matter of modern law and modern equipment of all sorts for carrying on work for public health conservation. The state department of health is not organized according to the best modern ideas; the laws under which it operates are, with one or two exceptions, largely behind the times; the possibilities for beneficial educational work among the masses are rather limited; the close affiliation and co-operation of local and county departments has not been perfected to the degree necessary for the best results; the information which a state department must have to be maintained upon a high plane of efficiency is not in hand, and, under present conditions, not easy to obtain; there is not one full-time county health officer in the state, and only one full-time city health officer; and in numerous other ways we are behind the procession. This is not to say, however, that the Tennessee State Board of Health has not accomplished a great deal that has been worth while, for it has.

The enactment of the vital statistics law, in 1913, was a great step forward, and the admission of Tennessee into the "registration area for deaths" of the United States, in 1917, demonstrated the fact that the operations of the Bureau of Vital Statistics have been well directed. The work of the Bureau of Rural Sanitation, supported jointly by the state, the International Health Board of the Rockefeller Foundation, and individual counties, has been prosecuted with reasonable success. Through the co-operation of the United States Public Health Service and the people of Tazewell, in Claiborne County, a trachoma hospital has been maintained which has done splendid service. The laboratory of the Board has rendered valuable assistance to physicians and to the people at small cost. Through the co-operation of the Children's Bureau of the United States and that of Tennessee Congressmen, large quantities of instructive literature have been distributed to mothers of all children born in the state for a number of months. In addition to this, large quantities of literature prepared in the office of the State Board of Health have also been distributed. In an advisory capacity much helpful service has been rendered health officers and other officials, and some splendid work has been done having for its purpose the protection of the health of the inmates of public institutions. And this is not by any means a full statement of the many and varied activities of the State Board of Health within recent years.

There has been a tendency, or rather, perhaps, we should say that these seems to be developing a tendency to depend too much upon outside support for carrying on work that Tennessee should do for herself. Certainly, the health of our people is as much worth conserving for our own purposes as the health of other states is worth conserving for their own sakes; certainly, our people are worthy as are the people of any state in this Union of all possible protection against disease and death; certainly it is the responsibility of the state to give such protection as the conditions of present-day life make necessary to be given through the state government; and certainly Tennessee is able to take care of her own.

A state board of health is dependent in a peculiar way upon the medical profession of the state for the information which it must have in order that it may discover the factors that play the major part in the dissemination of disease, until which is secured no well defined and purposeful plans for disease control can be put into effect. Under the law of the state, it is made the duty of physicians to give to the health departments this vital information—the occurrence of communicable disease, the certification of births, the causes for deaths, etc. It is a most gratifying fact that the profession generally in Tennessee has met very fully the demands of the law with reference to the signing of death certificates and has complied measurably well with the requirements of the law with respect to the reporting of births. It is deplorable, however, that the greatest indifference has been displayed toward the law which requires the reporting of communicable disease to county health officers for transmissal to the state health department. This information is of great importance to the State Board of Health, especially in these times when, more than ever before, it is necessary to do everything possible to safeguard the health of our troops in our own state and in other states, between which an unprecedentedly great amount of travel is constantly going on. To report the nature of the communicable disease and the number of cases of such disease which one sees in his daily practice to the county health officer is not much of a burden to any physician, but to have such reports in the office of the State Board of Health may enable that office to prevent the outbreak of a far-reaching epidemic.

Dr. R. Q. Lillard, who has served for five years as secretary and executive officer of the Tennessee State Board of Health, retired from that position on June 1, 1918, having tendered his resignation on April 30. Dr. H. H. Shoulders, who has for the same length of time been assistant secretary and, since 1913, State Registrar of Vital Statistics, also retired on April 30, having accepted a commission as captain in the Medical Reserve Corps. During the tenure of these gentlemen, the service of the State Board of Health was largely extnded and a stable foundation for further extension was laid. It so happens that the editor of this Journal and the secretary of the Tennessee State Medical Association was chosen to fill the place of secretary and executive officer of the Tennessee State Board of Health, and also to act as State Registrar of Vital Statistics until a time to be determined by the board. Fully conscious of his own deficiencies, but with a determination to discharge the responsibilities and duties that have devolved upon him to the best of his ability, and with a purpose single to the interests of the public health in Tennessee, the new secretary of the State Board of Health appeals to the medical profession of the state for their active, earnest and continued cooperation, to the end that such things as are possible for the protection of the public health in Tennessee may be done as well as can be under his direction of the office into which he has been placed.

ARE YOU ONE?

There are numerous physicians who have responded to appeals for enlistment in the Medical Reserve Corps with the answer, "I will go when I am needed." The time is right here NOW when, if these meant what they said, they must make good. EVERY MAN WHO IS PHYSICALLY AND PROFESSIONALLY FIT FOR ARMY SERVICE IS NEEDED IN THE RESERVE CORPS RIGHT NOW. So says the Surgeon-General, and so say all who are in position to know.

Our men are pouring into the battle areas of Europe and into the concentration and training camps of this country. The Hun is beginning his supreme effort and evidently has the strength to keep going for a long time; his U-boats are striking down our ships this very day at the very mouths of our harbors, as well as in European waters; his minions are bombing the hospitals behind the lines; our own troops who have through the fortune of war fallen into his hands are being starved and abused in the prison camps of the barbarian.

For our own sake, as well as for the sake of other civilized nations, we must handle the Hun, and we are going to do that thing IF our troops are properly cared for. They cannot be properly cared for unless there shall be enough medical officers.

ARE YOU ONE OF THOSE WHO HAVE SAID, "I WILL GO WHEN I AM NEEDED?" IF YOU ARE, SIGN YOUR APPLICATION BLANK TODAY AND REPORT TO THE NEAREST EXAMINER, FOR YOU ARE NEEDED NOW.

LIEUT. DAVID KING SUMMERS, M. R. C.,
Killed in Action in France.

TENNESSEE CONGRESSMEN AND THE OWEN BILL.

In the May JOURNAL will be found the minutes of the Eighty-fifth Annual Meeting of the Tennessee State Medical Association, and, among other things of interest, will be found the resolutions adopted by the House of Delegates and by the general session on the subject of the Owen Bill, now pending in Congress. The Secretary has written to each member of Congress from Tennessee and has sent to each of them a copy of these resolutions.

Senator John K. Shields has, in letters and telegrams to the Secretary and to other members of the Association, expressed his entire willingnes to support the Owen Bill. He has agreed to withdraw the bill introduced by him on the same subject, and has indicated his sincere interest in the matter of securing higher rank for medical officers in the Medical Reserve Corps. Senator Shields states in his letters that the bill bearing his name and bearing on the same subject as the Owen bill was an effort on his part to meet conditions which he thought menaced the older measure. His willingness to withdraw his own bill and, in fact, his whole attitude in the matter, should win the praise of all who believe that medical officers should be given better rank for the sake of those whom they would serve.

Senator McKellar writes as follows: "When your resolutions come in I will lay them before the Military Affairs Committee, which has this bill in charge. From expressions I have heard in the committee room, and especially in view of the fact that the War Department is very much opposed to the bill, and has recommended very strongly against its enactment, I doubt if it has much chance of passage now. A modified bill would probably have stood more show. Naturally, I would like very much to do what the doctors of Tennessee want, and if your Association would like to send some one here to come before the committee, I would be very glad indeed to have you come."

Congressmen W. C. Houston, Joseph W. Byrns, T. W. Sims, and Cordell Hull simply say that they will give the Owen-Dyer bill their very earnest attention, while Congressmen Austin, Fisher, and Sells express themselves as being most heartily in favor of the measure and say positively that they will support it. Congressman Sells also says that he thinks the bill will have the favorable consideration of Congress at an early date.

Up to this writing, Congressmen Padgett, Garrett, and Moon have not been heard from.

So, as far as is known here up to this time, the attitude of Tennessee Senators and Representatives toward the Owen-Dyer Bill is this: Senator Shields and Congressmen Austin, Fisher and Sells are supporting the bill. Congressmen, Byrns, Houston, Sims, and Hull are not willing to say what they propose to do. Senator McKellar wants to do what the Tennessee physicians want done. Senator McKellar wrote to the President and the Secretary of the Tennessee Medical Association, inviting them to appear and present the attitude of Tennessee physicians before a subcommittee of the Committee on Military Affairs in the Senate. President Richmond McKinney appointed Maj. W. D. Haggard, who was then in Washington, serving on the Rotary Advisory Board for General Surgery, in the Surgeon-General's office, to represent the Tennessee Medical Association. Dr. J. A. Witherspoon also appeared before this committee.

It is hoped that the presentation on behalf of the nearly 500 men who already belong to the Medical Reserve Corps from this state will have weight with the junior Senator and his subcommittee. We can assure him that Tennessee physicians want him to support the Owen-Dyer Bill, and that they hope he will do what they want him to do.

The Owen Bill has been thoroughly studied by the best minds in Washington and out of Washington, among them the President of the United States, the Surgeon-General of the United States Army, and many others, and has received from them whole-hearted endorsement. Our information is to the effect that one of the greatest generals in the Army, a man who has served in the capacity of medical officer, line officer, and has been pretty near the tipmost top believes the Owen Bill worthy of passage as it stands. The man whose name it bears, and that one who introduced the companion measure in the House of Representatives, are both of them men who are known the country over as of the highest order of intelligence, and as legislators of keen discrimination and practical common sense. We are informed, too, that when the bill was finally completed, after many conferences, that each man who had participated in building the bill was asked to state positively whether or ot he was satisfied that it met the demands of the situation and that it was fair and in all respects a worthy bill; upon which each signified his satisfaction with the bill as it stood. We are further informed that it appears that some one who was there and expressed himself as pleased and satisfied did not 'stand hitched.'' All of this is here stated for the reason that it seems well to have it generally understood that the Tennessee State Medical Association knows something about the Owen-Dyer Bill, both as to its purposes and as to its history; that the Association took the trouble to inform itself before going on record in this matter; and that the resolutions adopted at Memphis were not adopted ''just offhand,'' and without any appreciation of what was involved.

REPORT ALL DISLOYAL ACTS.

The following letter from Headquarters Southeastern Department, Charleston, S. C., contains a timely appeal. There is no room for traitors, nor even for thoughtless fools, in this country now. The traitors should be hanged unceremoniously and the fool should be made wise through the application of whatever measures are necessary to start the processes of careful cerebration.

> CHARLESTON, S. C., April 19, 1918.—(Special.)—It has come to the notice of this office that many people fail to report suspicious and disloyal acts or manifestations of sympathy for the enemy, because of uncertainty as to the proper official to approach.
>
> It is very important that the Government should have the assistance of all citizens in detecting enemy propaganda or suspicious activities of individuals, and you will do a service in notifying all people that any communication addressed to "Intelligence Officer, Headquarters Southeastern Department, Charleston, S. C.," will receive attention and be transmitted to the proper official of the Government for investigation. The names of informants will not be divulged, and there need be no fear on the part of anybody of getting into trouble in case suspicions prove to be unfounded.
>
> Informants should indicate the nature and source of their information, as well as the time and place.

USE THE OFFICIAL NAMES.

The attention of our readers is directed to the subjoined letters, with the request that they be read carefully and with the hope that Tennessee physicians will comply with very reasonable demands of the Council on Pharmacy and of the National Research Council. It is highly important that the official names of drugs be established in the daily usage of physicians, and it is also important that where proprietary brand names are used that they be rightly used.

Dr. Olin West, Editor,
Jour. Tenn. State Med. Assn.,
Nashville, Tenn.

Dear Sir:

Professor Stieglitz, Chairman of the Subcommittee on Synthetic Drugs of the National Research Council, has asked me to send you the enclosed letter for publication.

On behalf of the committee, he also urged that you adopt the Federal Trade Commission's recommendation to use the official name of the licensed drugs in connection with all written articles and advertisements, and if the proprietary brand name is to be used, to place this side by side with the official name.

The official names so far adopted by the Federal Trade Commission are:

Arsphenamine for the drug marketed as Salvarsan, Diarsenol and Arsenobenzol, etc.

Neoarsphenamine for the drug marketed as Neosalvarsan, Neodiarsenol and Novarsenobenzol, etc.

Barbital for the drug marketed as Veronal.

Barbital-Sodiem for the drug marketed as Medinal and Veronal-Sodium.

Procaine for the drug marketed as Novocaine.

Procaine Nitrate for the drug marketed as Novocaine Nitrate.

Phenylcinchoninic acid for the drug marketed as Atophan.

Yours truly,
W. A. Puckner.

PROCAINE AND NOVOCAINE IDENTICAL.

To the Editor:

It appears that in certain quarters the attitude is taken that the local anesthetic sold as Procaine is not identical with that marketed as Novocaine. The Subcommittee on Synthetic Drugs of the National Research Council believes it important that this misunderstanding should be corrected, and hence offers the following explanation:

The monohydrochloride of para-amino-benzoyldiethyl-amino-ethanol, which was formerly made in Germany by the Farbwerkevorm, Meister, Lucius & Bruening, Hoechst A .M., and sold under the trademarked name Novocaine, is now manufactured in the United States. Under the provisions of the Trading With the Enemy Act, the Federal Trade Commission has taken over the patent that gave monopoly for the manufacture and sale of the local anesthetic to the German corporation, and has issued licenses to American concerns for the manufacture of the product. This license makes it a condition that the product first introduced under the proprietary name "Novocaine" shall be called Procaine, and that it shall in every way be the same as the article formerly obtained from Germany. To insure this identity with the German Novocaine, the Federal Trade Commission has submitted the product of each firm licensed to the A. M. A. Chemical Laboratory to establish its chemical identity and purity, and to the Cornell Pharmacologist, Dr. R. A. Hatcher, to determine that it was not unduly toxic.

So far, the folowing firms have been licensed to manufacture and sell Procaine:

The Abbott Laboratories, Ravenswood, Chicago.
Farbwerke-Hoechst Company, New York, N. Y.
Rector Chemical Co., Inc., New York, N. Y.
Calco Chemical Company, Bound Brook, N. J.

Of these, the first three firms are offering their products for sale at this time, and have secured their admission to New and Nonofficial Remedies as brands of Procaine which comply with the New and Nonofficial Remedies standards.

While all firms are required to sell their product under the official name "Procaine," the Frabwerke-Hoechst Company is permitted to use the trade designation "Novocaine" in addition, since it holds the right to this designation by virtue of trademark registration.

In conclusion: Procaine is identical with the substance first introduced as Novocaine. In the interest of rational nomenclature, the first term should be used in prescriptions and scientific contributions. If it is deemed necessary to designate the product of a particular firm, this may be done by writing Procaine-Abbott, Procaine-Rector or Procaine-Farbwerke (or Procaine (Novocaine brand)).

Yours truly,
Julius Stieglitz,
Chairman Subcommittee on Synthetic Drugs, National Research Council.

MAY THERE BE NONE UNENLISTED ON THAT DAY!

President Wilson, in his statement calling upon every man, woman and child to pledge themselves on or before June 28 to save constantly and to buy regularly the securities of the Government, says, "May there be none unenlisted on that day!"

As the President points out, "This war is one of nations—not of armies—and all of our 100,000,000 people must be economically and industrially adjusted to war conditions if this nation is to play its full part in the conflict."

Our nation, not our Army and Navy only, is at war. And that means that all of us not actually fighting must do our part.

That part consists in giving the Army and Navy all the support of which we are capable. To do that each one of us must first of all be a producer to our maximum ability and a consumer of necessities only, for every bit of man power and every particle of material is necessary for the use of the Army and Navy and for the making of the things essential to our citizens.

As a maximum producer and as a consumer of necessities only, each one of us will be an accumulator of savings. And these savings can be invested in War Savings Stamps with benefit both to the Government and ourselves.

GOODS AND SERVICES.

The doctrine of "goods and services" about which we have read a great deal the last few months, is one to which we can all heartily subscribe. It is also one which we can easily make clear to those of our friends to whom it is new.

A homely saying is, "You cannot eat your cake and have it, too." This saying explains in a few words the idea of the doctrine of "goods and services."

We cannot go into the markets and buy and use goods of any kind and at the same time leave those goods for war purposes. We cannot have labor work for us as individuals and at the same time have that labor available for the use of the Government to help it to fight the war.

Every time we buy goods, every time we use labor, we compete with the Government.

It makes no difference that the goods may be of the kind not used by the Government. If the goods bought by us are manufactured articles, certain raw materials are needed for their production. If the goods bought by us are raw materials, then we are taking from the markets things that the Government can almost certainly use, for there are, indeed, few raw materials not used in some branch of war industry. Moreover, everything we buy must be transported in some way, and adequate transportation is vital to the speedy production of war goods and to the rapid movement of troops.

It makes no difference that the labor we employ for our personal use is labor not directly available for war needs. The men who work for us may not make soldiers or sailors, but whenever we use a man there is just that much less man power available for Government use and for use in making those things necessary to the public. And then, too, no man can work for us without using materials of some kind.

This does not mean, naturally, that we must stop buying everything and refrain from employing all labor. Certainly not. Every one is expected and, in fact, urged to keep himself in the most efficient condition possible, so that his body and mind can give the maximum service. That necessarily means the use of goods and services; but there is a vast difference between using only those goods and services necesary to keep us in prime physical condition and in using goods and services that we do not need.

And the reason we should restrict our buying to the things needed is that we cannot use materials and labor the way we did before we entered the war and at the same time have enough labor and materials with which to win the war.

Every day sees an increase in our fighting Army, and our fighting Army is made up of men from our industrial army. And every addition to our fighting army means an increase in the amount of war goods that must be manufactured. There can be only one result to all this great change—the ranks of necessary labor will have to be increased by the addition to them of many men who have heretofore worked at tasks not now necessary. Peace goods will have to give way to war goods.

This will mean that all of us must buy wisely.

One of our countrymen successful in amassing a great fortune once said that the way to get rich was never to buy anything until you absolutely had to have it. We have now come to the point where all of us, in order to give our country every assistance possible, must not buy things unless they are needed to maintain our health and our efficiency.

WHAT WILL WIN THE WAR?

The New York Tribune recently said editorially that "Victory is a question of means," and then it went on to list the means. These are:

First, the raw materials.

Second, the plants where raw materials are converted by industrial processes into sinews of war.

Third, the labor to act upon the raw materials.

Fourth, the fighting man power in uniform.

Fifth, transportation.

Labor and materials, in other words, are what are necessary to win the war. What, then, is the duty of all of us? Obviously, what we must do is to produce all that is possible and consume as little as necessary and give the Government our utmost financial support.

If we follow this creed, we shall leave for the Government more labor and materials for strictly war purposes and we shall accumulate savings for investment in War Savings Stamps. Thus we shall help both the Government and ourselves.

HELPING THE GOVERNMENT AND OURSELVES.

Julius Rosenwald, president of Sears, Roebuck & Co., now serving as a member of the Advisory Commission of the Council of National Defense, has frequently stated his belief that our victory over the Teutonic powers will be won the sooner if all of us follow the practice of buying only those things which we need. He said recently:

'We can finance the enormous cost of this war by spending only for the things we need, not by spending for the things we desire. Just so long as we continue to spend for things we do not need, just that long do we prolong the war and add to the tremendous sacrifice of life and property. Not until all of us realize the stern fact that all spending, no matter for what, consumes labor and material, and that labor and material are the essentials of victory, will we be awake to the fundamentals of this grave situation. When we do thoroughly grasp this truth and then act as our conscience and as our patriotism prompt us, we shall no longer spend except for those things necessary for our health and general well-being. And our health and general well-being do not require many things which through an easy life we have come to consider as necessities. Luxuries must be put aside, actual necessities must be continued. It would be a grave disaster if the home-staying population by foolish sacrifice were not kept fit for its all-important task of supporting our armies in the field.

'And this thing, above all, we must remember: Saving for the war can not be confined only to certain classes of the population. Every one—men, women and children, the dweller in the palatial mansion and the resident of the humblest tenement—all must save. That man financially able to indulge himself in luxuries has the least excuse for doing so. In war time of all times wealth is no excuse for extravagance. It makes no diference who it is who buys the nonessential; the buying of it takes labor and material needed for war purposes.''

Mr. Rosenwald, who speaks both as a business man and as an advisor in war industry matters, also points out that by following the practice of buying only those things which we need, we not only assist our Government, but we accumulate savings which we can invest in War Savings Stamps and in that way do a good turn for ourselves.

ONE NONESSENTIAL INDUSTRY.

The question as to what constitutes a nonessential industry in war time cannot be answered offhand. The complexities of modern business are such as to make it extremely difficult to determine just what industries should be suspended under the stress of war conditions without inflicting a greater economic injury than is justified by the possible benefits that might accrue. There is one business, however, that those who have given the problem any study would have to admit should be largely dispensed with at all times—and that is the manufacture of nostrums. Every physician and every druggist knows that there is not a ''patent medicine'' on the market today whose place is not better filled by official products that are to be found on the shelves of every druggist in the country. Every physician and every druggist knows that the ''patent medicine'' maker aims, not to furnish drug products that can be obtained in no other form, but to duplicate in infinite variety, with secret mixtures, the non-secret preparations already on the druggists' shelves, and, what, is far worse, to stimulate unnecessary self-drugging on the part of the pubic. It is true that if the ''patent medicine'' industry were destroyed, druggists would for a while suffer financial loss, not because they derive a large profit from ''patent medicines,'' but because the public, being deprived of the lying scare-heads of ''patent medicine'' advertisements, would buy fewer drugs of every kind. Certainly, however, this loss to some thousands of druggists would be an immeasurable gain to some millions of people. The exploiters of a widely heralded nostrum have bragged in their advertisements of the number of carloads of their mischievous alcoholic mixture that they have shipped to certain points. Does even the intelligent layman believe that under present conditions there is any excuse for taking up valuable shipping space with such worthless, if not dangerous, trash? And this is but one of scores. If there is one industry in the United States whose suspension at the present time is justified on the grounds of public health, greater efficiency and avoidance of waste, it is the nostrum industry.—*Jour. A. M. A.*, May 25, 1918.

NOTES AND COMMENT

"Why should I go into the Medical Reserve Corps? Why, I make more than a major makes." That's the way one of our patriots figures the thing. And he laughed when he said it. X!!**&”“ ”“)()’QZ—that's what we think of him—and it sounds worse than it looks, too.

Another drive is on for men for the Medical Reserve Corps. Tennessee must send about 240 more men, if she is to do her part. Let every man who can go, and go now.

Dr. H. M. Cass, Johnson City, has been appointed surgeon of the Fifth Tennessee Infantry.

Dr. Dan Richards, Etowah, is a lieutenant in the Medical Reserve Corps, and is now in one of the training camps.

The picture of Lieut. David King Summers, M. R. C., the first medical officer from Tennessee to give up his life in the present war, appears in this Journal.

Capt. Matt B. Murfree, M. R. C., Murfreesboro, it now at Camp Greenleaf, Ft. Oglethorpe, Ga.

The friends of Dr. J. W. Sanford, Ripley, will learn with regret of the death of Mrs. Sanford, who died on May 7 from pneumonia. The Journal extends to Dr. Sanford most sincere sympathy.

The man who is withholding his application on the ground that some other man has not gone into the Medical Reserve Corps is hiding behind very thin camouflage.

The Dyersburg Hospital, with Drs. J. W. Watson, J. G. Price, A. H. Moody, S. B. Sharp, and C. T. Nash as incorporators, is a new institution at Dyersburg. The hospital will have a capacity of sixty beds, according to newspaper reports. Dr. E. M. Holder, Memphis, and Dr. J. A. Graham, Chicago, will be consulting surgeons.

Tennesseans in the Medical Reserve Corps continue to win promotions. Major W. H. Baldwin, Memphis, and Captains N. I. Ardan, Bristol, and C. McK. Beck, Memphis, are the latest to receive higher rank.

In filling out death certificates, be careful to put down the cause of death in a way that will make it mean something. "Heart failure" wont' do; state the real cause of death. "Accident" won't do; what kind of accident was it? "Septicaemia" wont do; state whether it was puerperal. A little care in assigning the cause of death will help wonderfully toward making our vital statistics worth a great deal to the state and to the medical profession especially.

The following Tennessee medical officers have been ordered to Camp Greenleaf during the month: Capt. D. R. Neil, Nashville; Lieut. A. V. Keebler, Bristol; Lieut. J. H. Revington, Chattanooga; Lieut. W. W. Widener, Laurel Bloomery; Lieut. C. Y. Bailey, Baileyton; Lieut. S. N. Anderson, South Pittsburg; Lieut. M. W. Seawright, Nashville; Lieut. O. H. Gribbins, Moscow; Lieut. C. A. Skelton, St. Elmo; Capt. T. E. P. Chambers. Cleveland, and Capt. John Overton, Nashville.

Major E. C. Mitchell, M. R. C., Memphis, has been made commanding officer of the base hospital at Ft. Oglethorpe.

Capt. H. H. Shoulders, M. R. C., Nashville, was ordered in May to report to the Rockefeller Institute for a course of instruction and then to the base hospital at Camp Upton.

Capt. W. M. McCabe, M. R. C., Nashville, one of the officers of the Vanderbilt Hospital Unit, who has been in France for some months, has been reported as ill in one of the hospitals near his post.

Capt. W. N. Lackey, Gallatin, and Capt. W. P. Atchley, Knoxville, are on duty at Camp Gordon, Atlanta. Capt. C. L. Goodrich, Fayetteville, is also at Camp Gordon.

Capt. John M. Lee, M. R. C., Nashville, after completing a detail at West Point, was ordered in May to Camp McClellan, Anniston, Ala., as assistant to the camp surgeon.

Major F. D. Smythe, Memphis, was ordered in May to the Rockefeller Institute, and after the completion of his assignment there to Ft. Oglethorpe, where the members of the hospital unit under his directorship are in training.

MISCELLANEOUS

ACIDOSIS.

A simple test for acidosis which has been found to be trustworthy in diabetes has been devised by Van Slyke, who is making notable researches in biological chemistry in the Rockefeller Institute for Medical Research. He finds that the sum of the total acidity and ammonia of the urine expressed in c. c. of decinormal solution, give an accurate measure, the milder stages of acidosis in diabetes. In other ailments, he has not found this method so satisfactory. Comparisons of the results of this procedure with those obtained from analysis of the blood, show that in severe acidosis the results are not quite so trustworthy as in the less pronounced forms. Analysis of the blood is the most accurate of all the methods of determining acidosis, but requires equipment and labor which are not to be had in the ordinary laboratory which is at the service of the physician. Van Slyke, after experimenting with various other tests for acidosis, recommends the one devised by him, when the patient is suffering from diabetes. He has prepared a table for determining the degree of acidosis. The body weight is divided by the number of c. c. of decinormal solution. From 0 to 12 c. c. per pound is normal; 12 to 30, indicated mild acidosis; 30 to 45, moderately severe, and above 45 severe.

The Battle Creek Sanitarium has recently adopted the Van Slyke method with advantageous results.

TUBERCULOSIS.

The point of election and modes of invasion in pulmonary tuberculosis are discussed by J. O. Cobb, Chicago (*Journal A. M. A.*, May 25, 1918), who reports that it is generally admitted that the peribronchial glands are first involved in what is called the pretuberculous stage, and the problem is to analyze the common anatomic methods or routes by which tubercle bacilli reach the points where they are arrested and colonized. Minute particles of carbon, stone, etc., have reached lung tissue, but this fact does not prove that it was carried there in the ordinary process of respiration, as this function is commonly understood. One, however, cannot avoid the conviction that foreign bodies might reach the mucous membrane of the bronchioles in the tidal air. A histological feature must be considered. The minute terminal branches of the bronchioles are not supplied with cilia, and if the foreign bodies reached these points the pull of the adjacent lymph streams would draw them back into the air sacs, and thence to the lymphatic glands and vessels of the lungs. The experimental work of Cornet, confirmed by others, seems to have proven this. The possibility of infection through the tonsils is not credited by Cobb. The possibility of foreign matter reaching the lungs through the intestinal tract seems to have been demonstrated. It is reasonable to assume that in whatever way the cow is infected, it will be found anatomically the same in man. Those who think that milk is the great agent carrying tuberculosis are confronted with the confusing fact that the cow herself is not a milk feeder, notwithstanding her marked susceptibility to tuberculosis. Contiguity in cattle seems to be essential in the infection of herds. In cattle the point of election seems to be different from that in man, but in both the highest portion of the lung. which is the apex in man, and the caudal lobe in cattle, are the first infected, and both are best supplied with lymphatics. There the germs find their point of election. With the experimental evidence at hand, Cobb holds that it is a fair assumption that infection is commonly by the ingestion method in man and animals. The number of bacilli that were swallowed is out of all proportion to the very doubtful number that might possibly reach the air vesicles by inhalation. Granting that infections are commonly by the intestinal tract does not lessen the potential danger of infected dust, as much of this dust would be swallowed, even though planted on respiratory mucous membranes by inhalation. No portion of the lung has any specific biochemical constituent, sensitizing it to the tubercle bacillus, and the selection of a specific area for the invasion must be wholly from physio-anatomic causes.

ROENTGENOGRAPHY.

Donald F. Cameron, St. Louis, and Charles C. Grandy, Fort Wayne, Ind. (*Journal A. M. A.*, May 25, 1918), give the results of a clinical application of the use of sodium and potassium iodides as opaque mediums in roentgenography, which had already been the subject of a preliminary report of experiments by Cameron in *The Journal A. M. A.*, March 16, 1918, p. 754. For pyelography, a 25 per cent aqueous solution of sodium or potassium iodid is used. For cystograms, a 15 per cent solution gives sufficient density. No special precautions have been used by the authors in eight human cases. In all cases the roentgenograms were satisfactory, and there was no complaint of pain or discomfort on the part of the patients. Colloidal silver solutions are also quite satisfactory for this work, but they are relatively expensive. In the past three years the thorium solution introduced by Burns has become very popular. At present, thorium salts, which are cheaper than silver, are rather difficult to obtain. The sodium and potassium salts have all the desirable features of the thorium preparation, and are about twice as cheap. Any highly concentrated iodid solution must necessarily be opaque to the roentgen ray, but for practical use it must be non-irritating, and must not form precipitation with urine or bloody urine. Strontium iodid has much to recommend it, but it does form a slight precipitate, which would be a bar to its use in cavities, not readily irrigated. The authors conclude that a 25 per cent solution of the sodium salt is best for pyelograms, though a stronger one may be used if greater contrast is desired. A 15 to 20 per cent solution is sufficient for good cystograms. Of all the solutions used in pyelography, they know of none better than these two.

NEUROSYPHILIS.

The marign of error in the diagnosis of neurosyphilis of the paretic type has been studied by Ira A. Darling, Warren, Pa. (*Journal A. M. A.*, May 25, 1918). One hundred and sixty-eight patients were especially examined, and the results are compared with those of Southard in cases examined at Danvers, Mass. He found an error of 15 per cent in the diagnosis of cases that the staff at Danvers had unanimously considered to be general paralysis of the insane. The cases considered in Southard's paper were diagnosed before the general application of biologic tests, and Darling purposes to determine, if possible, how far this addition to our diagnostic technic has been of value, or whether it has made us so careless of our clinical examinations as to vitiate its usefulness. A table is given showing the important points found in a study of 168 patients admitted to the Warren State Hospital between January, 1913, and January, 1918, and examined at necropsy. The pathological diagnoses of these cases were based on records made by Dr. Paul G. Weston, to whom the author is indebted, also, for additional microscopic work. All of the forty-five cases unanimously diagnosed as neurosyphilis of the paretic type proved to be such at necropsy, and every one of these had given a positive Wasserman reaction in the spinal fluid at some time. All of those admitted after July, 1914, gave a positive Lange test. There were six cases which some of the staff members considered paretics that were not unanimously upheld by the other members. At necropsy, none of them showed evidences of cerebral syphilis. Darling thinks many errors are due to depending too implicitly on laboratory diagnoses. Several workers have called attention to the fact that the blood of the syphilitic often may give a positive Wasserman reaction at one time and a negative reaction at another. The records of the Warren State Hospital show many instances of this kind, and also similar irregularities in spinal fluid tests. Special care, therefore, has been taken to avoid such mistakes. It does not necessarily follow that absolute accuracy is always possible, but the error may be made negligible, if careful clinical examination is combined with repeated serologic tests, by a competent laboratory worker.

SPIROCHETES IN THE KIDNEY.

Yutaka Kon and Tomomitsu Watabiki, Tokyo, Japan (*Journal A. M. A.*, May 25, 1918), report the results of examination of fifty kidneys from the cadaver and twenty-six from living persons after operation, for the presence of spirochetes. These results are set forth in two tables and commented on. The spirochetes in the kidney were found mostly in hyaline casts, hyaline clots, and also in the granular substance in the cortex, but were not so numerous in the medullary substance. The authors have noticed two cases of hyaline clots in Bowman's Capsule, and two cases of homogeneous and granular casts in congenitally cystic kidneys. In contracted kidneys, the spirochetes were found in the so-called cysts of retention. The location of the spirochetes in the casts of the urinary tubules was not always constant. In the same cases, they found only hyaline clots, but no others. The organisms found were stained a deep black according to Levaditi's method. Their average length was from 6 to 10 microns. Organisms 22 microns long, with pointed ends, have been observed. Three types were seen. Type I is very much like *Spirochaeta pallida.* Type II shows an irregularly curved spiral, while Type III is much broader than the other, with coarser and less regular curves. If these spiral bodies are true spirochetes, confirmatory evidence would be required to absolutely demonstrate it, but the authors admit that they have not yet been able to prove this. The presence of bodies, however, morphologically difficult to differentiate from true spirochetes, is important. Examination by dark-field illumination and Giemsa's staining method was not entirely satisfactory. The organisms were found without any relation to any other disease, and the assertion that they are the specific causative agents of any disorder cannot well be made.

BOOK REVIEWS

Infection, Immunity and Specific Therapy. By John A. Kolmer, M. D., Assistant Professor of Experimental Pathology, University of Pennsylvania. With 147 original illustrations. More than 900 pages. Second edition; thoroughly revised. W. B. Saunders Company, Philadelphia.

The greatest strength of Dr. Kolmer's book, aside from the wealth of scientific information contained, is to be found in the simplicity and directness of statement , through which the clinician is really enabled to apply what he learns from studying it. The revision of the first edition has indeed been thorough. All of the various diagnostic tests which have come into use in late years, as well as the treatment of disease with sera, vaccines and antitoxins, are discussed and described; anaphylaxis, chemotherapy, and whatever else one would expect to find included in a work of this kind will be found by the reader. There is not much presented which is of only theoretic value, but rather are the really practical considerations emphasized throughout. In view of the present-day importance of the subjects covered, every library which makes any pretense toward completeness should contain this practical text.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1917. Cloth. Price, postpaid, 50 cents. Pp., 169. Chicago: American Medical Association, 1918.

This volume contains the reports of the Council which were adopted and authorized for publication during 1917. It includes reports of the Council previously published in *The Journal of the American Medical Association*, and also reports which, because of their highly technical character or of their lesser importance, were not published in the Journal.

In this volume the Council discusses the articles which were examined and found to be in conflict with the rules for admission to New and Nonofficial Remedies. Among these reports are discussions of such midely advertised proprietaries as Corpora Lutea (Soluble Extract), Wheeler's Tissue Phosphates, the Russell Emulsion and the Russell Prepared Green Bone, Trimethol, Eskay's Neuro Phosphates, K-Y Lubricating Jelly, Ziratol, Hepatico Tablets, Hemo-Therapin, Venosal, Surgodine and Kalak Water. A report on Iodeol and Iodagol covers 51 pages, and illustrates the exhaustive investigation which the Council is often obliged to make of proprietary articles.

Similarly illustrative of the Council's thoroughness is the clinical study of Biniodol, a solution of mercuric iodid in oil, and the investigation of Secretin-Beveridge, made for the Council by the physiologist, Professor Carlson, of the University of Chicago. The volume also contains reports which explain why certain preparations, such as Alcresta

Ipecac tablets, the German-made biologic products and antistaphylococcus serum, which were described in the last edition of New and Nonofficial Remedies, are not contained in the current 1918 edition. Those who wish to be informed in regard to proprietary remedies should have both the annual Council Reports and New and Nonofficial Remedies.

NEW AND NONOFFICIAL REMEDIES, 1918, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1918. Cloth. Price, postpaid, $1. Pp. 452+26. Chicago: American Medical Association, 1918.

This annual should be in the office of every physician. It lists and describes all those proprietary remedies which the Council on Pharmacy and Chemistry has examined and found worthy of the confidence of the medical profession; that is, articles the composition of which is disclosed, which are exploited truthfully and which give promise of some probable therapeutic value. The description of each article aims to furnish a statement of its therapeutic value and uses, its dosage and method of administration, as well as tests for the determination of its identity and quality. Articles of similar composition are grouped together and in most cases each group is accompanied by a general article which compares the members of a group with each other and with the established drugs whihc they are intended to replace. The description of the individual articles and the general discussions are written by experts and furnish information of a trustworthiness unsurpassed by any other publication. The book is especially valuable to the busy physician who desires a concise and up-to-date discussion of such subjects as digitalis therapy, the newer solutions for wound sterilizations, iron therapy, food for diabetics, the value of sour milk therapy and of the bulgarian bacillus, the use of radium externally and internally, of arsphenamine (salvarsan, arsenobenzol, diarsenol) and neoarsphenamine (neosalvarsan, neodiarsenol), of local anesthetics, and other advances in therapeutics.

In addition to this annual issue of the book, supplements are sent from time to time to purchasers. With this volume for ready reference, the physician will be able to determine which of the proprietary remedies that are brought to his notice deserve serious consideration. At least, he will be justified to subject to close scrutiny those whoch have not met the requirements for acceptance for New and Nonofficial Remedies.

The book is sent, postpaid, for one dollar. Address the American Medical Association, 535 North Dearborn Street, Chicago.

A TEXTBOOK ON OBSTETRICS. By Barton Cook Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Eighth Edition. W. B. Saunders Company, Philadelphia.

The eighth edition of Hirst's obstetrics, one of the most widely known and most satisfactory texts in print, needs no extended notice at the hands of any reviewer. It is standard. Dr. Hirst has added, in this edition, descriptions of the various gynecologic operations for the complications of pregnancy, and the complications and sequellae of childbirth, as well as some discussion of the diagnosis and treatment of the more important pathologic conditions peculiar to women.

PRINCIPLES OF HYGIENE. By. D. H. Bergey, M. D., Assistant Professor of Hygiene and Bacteriology, University of Pennsylvania. Sixth edition; thoroughly revised. W. B. Saunders Co., Philadelphia, $3.50.

This is a splendid work in many respects. It is unfortunate, however, that the author does not take up some very important matters in more detail. It is also to be desired that he should go more fully and particularly into the questions of the sanitation of the individual home. Rural sanitation is practically ignored. Terminal disinfection is held by the author to be still necessary, and the various methods and products are discussed at considerable length. If the room that is given to this subject were used in the discussion of practical and important matters concerning home sanitation, the book would have far greater value. It's about time, too, that writers on hygiene and sanitation should come to recognize the very important fact that the cities of this land are not all the land by any manner of means. The doctor that really needs instruction most in matters which should be handled in a work of this kind are not in the cities.

A CLINICAL MANUAL OF MENTAL DISEASES. By Frances X. Dercum, M. D., Professor of Mental and Nervous Diseases, Jefferson Medical College, Philadelphia. Second edition, revised. W. B. Saunders Company, Philadelphia. Cloth, $3.50.

Intended as a book for the use of the general practician, Dercum's manual fills the bill. The reader, if he be one whose contact with mental and nervous diseases is only that of the average physician, can get from this manual information that will enable him to deal with his problems in an understanding manner up to the point where he can turn his patients into the hands of the specialist, if such action should be made necessary by the developments. Dr. Dercum's work is valuable for the very reason that an intelligent physician is made to realize his limitations in the field of nervous and mental disease. The chapter on dementia praecox is a most splendid presentation.

Give our boys in the Army and Navy every fighting chance. Pledge yourself to save to the utmost of your ability and to buy War Savings Stamps.

Can you refuse to loan your savings when other men give their lives? Buy War Savings Stamps.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., JULY, 1918 NUMBER 3

SURGERY OF THE THYROID.*

By J. B. HASKINS, M. D.,
Chattanooga.

The thyroid gland has furnished numerous problems from the dawn of medicine to the present day, many of which have never been solved, and perhaps never will be. In fact, very little is known regarding the etiology of the different types of enlargement which occur in the thyroid. Many observers believe that certain types of enlargement are not truly thyroidal in origin, but represent a lesion the basis of which is in the cardiovascular or in the nervous system. This may be true, yet there is a definite syndrome accompanying each different kind of goiter. Furthermore, these symptoms will subside after the condition of the thyroid has been remedied.

Surgical treatment of cysts, adenomas, and colloid enlargements of the thyroid has been practiced for many, many years, more especially in Switzerland, where such conditions are so common. It is only recently that operations have been performed for the relief of toxic symptoms produced by thyroid changes. In 1840, Basedow first thoroughly described exopthalmic goiter.

Drs. Crile and C. H. Mayo have done more than any Americans in the development of the surgery of exophthalmic and thyroitoxic goiters. Operative results are not perfect, yet the progress made in the surgery of the thyroid in this country in the past quarter of a century is certainly one of the most, if not the most, important advancements made in surgery in that time. It is now generally conceived that most forms of goiter require surgical treatment for permanent relief except the so-called adolescent goiter.

I think the following classification gives the best working basis for lesions of the thyroid:

Group 1.—Simple colloid goiters, either of the adolescent type or those produced by small adenomas about the time of menopause.

Group 2.—Adenomatus thyroids, which are characterized by a single large adenoma, often accompanied by several small ones.

Group 3.—Toxic goiters includes those designated hyperplastic and also the so-called degenerating adenomas, which Plummer has designated thyrotoxicosis.

Group 4.—Malignant goiters.

GROUP 1.—Simple goiter most often occurs in young girls at puberty, and is spoken of as adolescent goiter, and in nearly every instance is a physiological enlargement. These are not always accompanied by symptoms, and when symptoms are present it is hard to determine whether they have resulted from this type of thyroid. The increase in the size of the thyroid is due chiefly to the growth of colloid, although often there are areas of quite definite hypertrophy. Usually the gland is soft and lobular and symmetrical in its appearance. In instances in which the enlargement of the thyroid is the only noticeable evidence of trouble, the diagnosis is quite easy, but when the patient is nervous and hysterical, as girls of this age may be, the differential diagnosis may be most difficult. The difficulty lies in distinguishing between the nervous features noticeable in a purely nervous person with enlargement of the thyroid and those observed in a person suffering from a mild degree of hyperthyroidism. In both instances the thyroid enlargement may be of practically the same degree and consistency. Some writers are of the opinion that at puberty many girls have a very slight degree of hyperthyroidism, which may persist for some months or years and then gradually subside. Strange to say, the exophthalmic goiter patient seldom, if ever, is hysterical. The tremor associated with true hyperthyroidism is finer and more regular. A true bilateral exopthalmos is characteristic of hyperthyroidism. The muscular system is more impaired in the true goiter patient. The pathologist after histololig sections cannot always say whether the given specimen is one of true hyperthropy. For this reason it would seem that there cannot be a great deal of difference between the two types.

---

*Read at annual meeting Tennessee State Medical Association at Memphis, April, 1918.

The course of adolescent goiter varies. A large percentage subside within a few years and the enlargement disappears. Often small doses of iodine will diminish the glandular enlargement and relieve the symptoms. In other patients the gland continues to increase in size, causes difficulty in breathing and swallowing and may produce choking. If the gland continues to increase in size, the enlargement may be partly due to the development of adenomas within the colloid growth. In some cases the growth is so slow that pressure symptoms are not produced for many years, but usually if an adolescent goiter does not disappear within a very few years, it will continue to develop. In some instances the growth becomes very large and produces marked pressure symptoms as well as evidences of intoxication.

Treatment in this group of cases varies. A simple adolescent goiter should be given an opportunity to subside under proper management, and if it does not disppear after puberty is well established, it should be removed. In cases where the enlargement begins to increase, operative treatment is especially advisable, as the gland will surely make pressure and may possibly change its form and become toxic. Colloidal enlargements may persist until about the menopause without producing marked symptoms and then cause a very severe intoxication. For this reason it is advisable to remove the enlargement before the extreme degree of intoxication has occurred.

Group 2.—The characteristic symptom in this group of cases is pressure. The enlargement being due to the presence of the adenomas. The remaining thyroid tissue is apparently normal. The enlargement may be, and often is, present for a long time before symptoms arise. The first symptoms are usually choking, sense of pressure, wheezing and shortness of breath on exertion. The tumor may increase greatly, produces marked deformity of the trachea and larynx, and occasionally a paralysis of the recurrent laryngeal nerve. These tumors are round, hard, definitely encapsulated, and move freely in the neck during the act of swallowing.

Surgical interference offers the only means of relief for this type of enlargement. The adenoma must be removed, and if necessary a part of the thyroid tissue surrounding it. Frequently patients with this type of goiter say they are not inconvenienced by the enlargement at all, and are inclined to put off an operation, but it is much better to remove the adenoma before any nervous or toxic symptoms appear, as more of the danger in these operations results from the condition of the patient at the time than from the operations itself.

Group 3.—The goiters of this group may be divided into two distinct types. One is comprised of the hyperplastic thyroids producing the symptoms of exophthalmic goiter; the other is characterized by the toxic degenerating adenomatous thyroid producing what Kocher calls the "goiter heart." Although these two types may differ in many respects, it is entirely possible that the symptoms are produced by the same toxin or agent. An exophthalmic goiter is a definitely hyperplastic thyroid. Hyperplasia is usually present throughout the entire gland. Small portions of thyroid may appear normal, however areas of hyperplasis exist in it. There is usually a general enlargement of the gland, although the most severe symptoms are noted occasionally when the gland is scarcely palpable. Sometimes the gland will contain adenomas in addition to being hyperplastic. It is often noted after the polar vessels have been ligated for months that adenomas will be found in the hyperplastic gland.

Glands of the thyrotoxic type vary greatly. The patient who has only a small adenoma will often exhibit marked toxemia. Other thyrotoxic patients may have general colloid enlargement with small adenomas distributed throughout the gland. The enlargement is of the colloid adenomatous type. In some patients the colloidal predominates, in others the adenomas. The degree of intoxication seems to coincide with the amount of degeneration in the adenomas and the surrounding thyroid tissue. Exophthalmos is characteristic of the exophthalmic goiter, and is never seen accompanying the purely thyrotoxic gland. A patient suffering from exophthalmic goiter will have the typical tremor, tachycardia, nervousness, often great perspiration and diarrhea, and usually marked loss in weight, and characteristic metabolic changes may be observed. The thyrotoxic patient has no definite tremor, although often great nervousness from exhaustion. The heart is that of a dilated and greatly crippled heart, and unless the heart muscle is markedly damaged there is a marked increase in the blood pressure. In most cases, however, the patient suffering from a thyrotoxic goiter has considerable damage to the heart muscle. Mobius was the first to advance the idea that the gland was too active in the exophthalmic goiter. Some one has advanced the theory that in thyrotoxic goiter the symptoms are the result of absorption of the products of degeneration in the adenomas, or in the thyroid itself.

The administration of iodine and different preparations from the thyroid frequently seems to relieve patients suffering from hyperplastic goiters, while on the other hand, iodine seems to increase the symptoms in the thyrotoxic patient. Ligation of the thyroid gland always relieves in a measure the symptoms accompanying exophthalmic goiter. In thyrotoxic goiter, ligation of the vessels will frequently modify the symptoms, though the result is not as marked as in the exophthalmic type.

The treatment of goiters in the toxic group is absolutely surgical, but results will depend very largely on the method of procedure, and the existing damage to the cardiovascular system. It is a well-recognized fact that exophthalmic goiter should not be operated on during the period of acute exacerbation, and that the increasing intoxication must be arrested before any radical procedure is attempted. It is often necessary to keep these patients in bed for weeks with as little company and excitement as possible, with an ice bag over the heart, before attempting any surgical procedure. Any interference during the exacerbation is liable to result in death. While on the other hand, if the operation is performed during the time the symptoms are decreasing the result is nearly always satisfactory. Patients suffering from thyrotoxic goiter often present themselves for treatment during the period of broken compensation, when the heart is greatly dilated, extremities swollen and even auricular fibrillation. Consequently, operations performed in the presence of these grave conditions are attended with a high mortality. Rest in bed and large doses of digitalis for considerable time will frequently establish good compensation and make the patient a fair surgical risk.

Group 4.—Sarcoma of the thyroid is quite rare. Personally, I have never seen a case, and with the great amount of work that is done at the Mayo Clinic, their records show less than a dozen cases in the last decade. The early stage could not be diagnosed except histologically. If the malignancy could be recognized clinically, it would be inoperable.

Fortunately, carcinoma is also uncommon. The writer has only seen one case of carcinoma of the thyroid. The basis of a clinical diagnosis of malignancy is the extreme hardness of the tumor. When a clinical diagnosis of carcinoma can be made, it is then usually inoperable. The tumor in the thyroid is often quite small and its extension into the surrounding tissue results in an early involvement of the recurrent laryngeal nerves, and frequently produces total loss of voice, which is characteristic in these cases. When the cartilaginous rings of the trachea become involved, the patient experiences great difficulty in breathing. Frequently a persistent thymus has been present in fatal cases of hyperthyroidism.

It was thought for a time by some observers that the relationship existing between the two glands warranted an attempt to remove the thymus at the time of thyroidectomy, but the result did not warrant this procedure as a routine. The operation is a most difficult one, and there is some question as to what is gained by it.

Features of the technic: A great deal has been said regarding the anesthetic which should be employed and many different views have been expressed. Some have used local anesthesia and in non-toxic goiter cases it has been very satisfactory. However, I know of no objection to using a general ether anesthetic in the ordinary run of goiter cases, and I believe the operation can be performed more satisfactorily. At Mayo Clinic a combined anesthetic is used in all thyroid operations; that is, a small amount of one-half per cent novocain injected into the line of incision at the time the patient is being generally anesthetized. In this way the patient is completely anesthetized and in reality the ether is used only during the operating in the deeper tissues. As soon as the goiter has been removed the ether may be stopped and the operation completed without it, as the superficial tissues have been prepared by the injection of novocain. It is claimed there will be much less oozing from the superficial tissues if they have been infiltrated with novocain, and that the operation performed with this method of anesthesia carries less danger than when it is attempted under a local anesthetic. Dr. Crile and many other surgeons of national reputation prefer gas anesthesia in their goiter work combined with or without novocain as the operator may prefer.

Surgical technic of the thyroid is very difficult, perhaps more difficult than that of any other region. Improvements in technic as well as experience have aided a great deal in the control of the blood vessels during thyroidectomy. In the hyperplastic type all of the superficial vessels are dilated; there is oozing from all of the smaller vessels, and this bleeding is very hard to control. As a rule, the most serious difficulty to deal with is the slipping of the inferior thyroidal vessels backward beneath the cervical fascia. Where this condition exists, the dissection should be made under the fascia and the vessels ligated, for if these vessels are not tied, bleeding may continue under the fascia into the mediastinum and may add tremendously to the risk of the thyroidectomy. Fortunately tracheal collapse is not common; it occurs more frequently in cancer cases in which the cartilages have been softened by the extension of the malignancy. It may occur where a large adenoma has made considerable pressure on the trachea. In such a case the fascia over the trachea should be grasped on each side with a hemostat and the collapsed rings pulled apart. Usually after the lumen has been re-established in this way it will be maintained without further difficulty. If the trachea persists in collapsing or has been injured, it may be necessary to make a tracheotomy and keep a tube in place for a few days. Until recently it was considered necessary to dissect thyroid tissue from the trachea and cartilages, but it has been found that it is better to preserve the fascia about the trachea and larynx and if possible leave some thyroid tissue over the larynx. By so doing, the postoperative convalescence is much easier, coughing and irritation is less, and the accumulation of mucus in the trachea and larynx is greatly diminished.

Injury to the recurrent laryngeal nerve is quite rare in the experience of a surgeon accustomed to this class of work. It is very important to know the condition of the vocal cords before operation. The extent of the paralysis of the vocal cords will frequently surprise the laryngologist. The paralysis is apparently produced by the goiter and comes on so gradually that the opposite cord may relatively increase its function and the arytenoids continue to approximate. The approximation is to one side, rather than in the middle of the larynx. The patient is never aware that such complication exists, for as long as the arytenoids approximate speaking and singing remain almost or quite normal. Knowledge of the condition of the larynx muscles will enable the surgeon to avoid the region supplying the muscles that are doing the major part of the work.

If the muscles on one side of the larynx have been severely crippled, preservation of the nerve supply to those on the opposite side will certainly constitute an important feature in the operation. Under these conditions a very slight traumatism to the good laryngeal nerve might permanently incapacitate it and the patient will be unable to articulate.

In all probability the loss of voice after thyroid operations is most usually due to a change in the position of the larynx and the trachea resulting from the removal of the diseased gland. The restoration of the voice after the laryngeal nerve has been severed or traumatized is due to muscular hypertrophy, which approximates the arytenoids to one side of the midline and increased function in the good cord rather than to restoration of function in the traumatized side.

As to the amount of thyroid tissue to remove has brought on considerable discussion, and really is a problem that must be solved at the time of operation. We know that extirpation of the entire gland will result in serious changes from the loss of the thyroid secretions. On the other hand, if too little tissue is removed, there will be a recurrence of symptoms. Dr. C. H. Mayo says that one-sixth of the gland with its circulation and nerve supply is sufficient. Therefore, we feel that if the operator is well acquainted with the anatomy of the neck, and is a neat dissector,, he is more liable to err by being too conservative of the thyroid tissue.

The preservation of the posterior capsule with as much thyroid tissue as is deemed proper will always spare the parathyroids. Traumatism to the parathyroids may result in tetany, but unless the parathyroids have been removed this condition will soon clear up. Calcium lactate should be given when symptoms of tetany present themselves.

In conclusion, it may be said that at the present time the surgical treatment of lesions of the thyroid rests on a definite clinical and pathological basis, and that the results more than justify surgical interference. Striking results are constantly being obtained by the removal of the goiters producing toxic symptoms.

DISCUSSION.

DR. WILLIAM D. HAGGARD, Nashville: I have enjoyed Dr. Haskins' paper very much. He has very much simplified the classification. I think we all recollect the very elaborate classification of bygone times, but practically as a working basis, when one divides these goiters into the simple type, particularly the one of adolescence, and then the ordinary toxic, either exophthalmic, or the purely toxic type, where exophthalmos, for instance, is not a true symptom, and hyperplasia is not present, we have about all the types we encounter.

The adolescent type, as Dr. Haskins spoke of, ought not to be operated on. They get well, as a rule, without treatment, and in spite of treatment. Young girls with such goiters ought not to be operated on; whereas the smooth, round adenoma should be removed, as it grows rapidly. It is a deformity. It tends to undergo degeneration. Its removal is simple, because one can enucleate it just like one can a cyst that is not embedded in connective tissue. To be sure, the gland bleeds profusely, but the moment pressure is relieved it leaves the gland in a healthy condition, and cystic and encapsulated adenomata are simple. That particular gland cannot be benefited by iodin because it has a tough, fibrous capsule around it. Iodin cannot get in, nor can any of the secretions, hence they are prone to undergo degeneration, and these degenerations give rise to toxic symptoms. It is a curious thing that a gland, when it has to be crushed out of existence, self-preservation being the first law of nature, takes care to preserve its own function, and in so doing overdoes the thing and produces hyperthyroidism, so that cystic adenoma, whether degenerated or not, ought to be removed, and its accomplishment is simple.

The large colloid tumor, the growth we encounter often, can be benefited in the early stages by iodin, sometimes cured, but it becomes a nuisance and a deformity, and is not an unmixed blessing, because it occasionally undergoes not only malignant degeneration, but sometimes toxic degeneration. I have known a patient to carry one of these goiters for thirty-five years and then have a fatal type of hyperthyroidism.

In these cases I want to say a word about the technic in bilateral resection of the gland. Formerly, it was the custom to remove only the larger side, but when you leave some of the other side, as Dr. Haskins has said, it is prone to undergo a change, so that if one makes a symmetrical bisection of both lobes and pulls them together, after making a V-shaped incision, leaving enough thyroid, we can do away with the possibilities of its recurrence. These glands attain an enormous size. Some of them weigh seven pounds. In two of our cases they weighed five pounds, and it seems almost incredible that women often carry such an enormous burden for such a long time.

The exophthalmic variety is the dangerous form, and I think it is the one we very often overlook. It is the one form we call nervousness, neurasthenia, or if perchance it affects the heart, we call it cardiac. We seem to do everything but the right thing for it. These cases can be benefited by rest in bed, but not cured, and a cure is definite and consists in the extirpation of the hyperplastic thyroid gland, and this can be done simply by bilateral dissection.

I think Dr. Haskins' paper has simplified the subject very much indeed, and I am glad he has brought it to our attention.

DR. S. S. CROCKETT, Nashville: Dr. Haskins has presented a very interesting and instructive paper, expressing very largely the accepted surgical view of the present day. He has given us a very accurate description of the pathologic changes that take place in the glands. I think he and the gentleman (Dr. Haggard) who has discussed it, however, offer a more rosy view of the results than perhaps is warranted. I am not addressing myself to malignant disease of the gland; I am not addressing myself to the rapidly enlarging gland. I am not addressing myself to the very large gland that has to be removed for mechanical or cosmetic results; I am addressing myself to those forms or so-called cases of exophthalmic goiter or Graves' disease.

We have had some very curious stages in the history of this complaint. Graves, when he first described the disease, thought it was due to heart disease. He treated it with aconite, digitalis, lily of the valley, and so on. Claude Bernard said it was due to the cervical sympathetic, which was removed with the same results. A little later, in the surgical history of the subject, the attitude was taken that the disease was resident in the eyeball, and the eyeball was removed. Probably a great many of you never heard of the removal of the eyeball for goiter, but that is a fact. Dr. Samuel D. Gross, when he was professor of surgery in the University of Louisville, removed the eyeball for exophthalmic goiter, because he thought the disease was resident in the eyeball. In fact, he took out both eyes in the University of Louisville. This was about the year 1850. Surgeons offer no definite pathology at present in connection with the gland other than a thyrotoxicosis. The morbid changes are not distinctive. You find all sorts of changes in the glands. There is no characteristic morbid change present in the thyroid gland of Graves' disease. Of course, we are all somewhat influenced by our experience, but to say that a patient is cured of exophthalmic goiter because you take her to a hospital and remove the gland and keep her there for three weeks and she does not die, is not fair. That is not curing the patient, to my mind. It is a long time before you can tell whether a patient with exophthalmic goiter is cured or not. If you take these patients to a hospital and keep them there five weeks or a month, many get well without operation. To operate on them and say they are all well because they live is not fair. You do not cure a great many of them by surgical operation. A large majority of the cases I have seen have not been cured. They were still neurotic. They still had tachycardia and were incapacitated. It is true, they did not die.

Now, Mr. Chairman, I have had some very unhappy experiences with cases of exophthalmic goiter that I have had operated on. Not a single solitary one has been well as a result of operation. A few of my patients have survived, but none of them are well. It is offering a false hope to say they are going to be well after operation. If they do not die after operation, it does not cure them. If tomorrow a member of my family had exophthalmic goiter, I am free to say that I would be in serious doubt as to what would be the wise thing to do. I have had patients operated on time and again, and the only ones I have seen get well and remain well during the course of time are those to whom I gave the benefit of the Forcheimer plan. I have four or five that are well and have remained well apparently; I don't know that they are going to stay well, but I do not think it is fair to the public or to ourselves to hold up surgery as a truly curative measure for exophthalmic goiter.

DR. WILLIAM D. HAGGARD, Nashville: I am sorry Dr. Crockett has left the room, because I would like him to hear what I have to say. He said there was no definite pathology of exophthalmic goiter. As a matter of fact, the trained pathologist can, if we furnish him the history, immediately classify eighty-odd per cent of the cases and tell you not only whether you are dealing with exophthalmic goiter, but what stage of the goiter the patient has, whether active or quiescent, and so on, so that without going deeply into this phase of the subject, that much ought to be said.

Dr. Crockett also says that he has had a distressing experience with cases of exophthalmic goiter, and in contrasting the benefits of surgery, for instance, he spoke strongly of the Forcheimer treatment in these cases. I have had occasion to know something of the very distressing experience the doctor had. I met in the corridor of a Philadelphia hotel a patient that Dr. Deaver was to operate on. Unfortunately, this patient died in the hotel before Deaver saw him.

In the surgical management of exophthalmic goiter, one is led by the results obtained to have the same rosy view that a man who has been engaged in the care of this disease would have. It is very much like the lamented Murphy said, namely, if a case of appendicitis is brought to the operating table with perforation, no matter how it happened, up to that good hour the patient has been maltreated. What he meant was this: It is desirable to have the patient operated on before perforation has occurred. It might be also said it would be desirable to have cases of exophthalmic goiter brought to the surgeon before they die.

DR. J. B. HASKINS, Chattanooga (closing): Dr. Haggard has expressed my viewpoint more clearly than I could have done, and has covered just what I would have said. We get many of these cases so late that they are practically moribund. Above all, we want to be on the alert for this type of condition and resort to surgical intervention before it is too late. I appreciate the discussion.

SURGICAL MANAGEMENT OF CHRONIC GASTRIC AND DUODENAL ULCERS.*

By R. L. Sanders, M. D.,
Memphis.

In Dr. Sippy's article on the "Medical Management of Peptic Ulcers," published in 1915, he shows that practically all cases of gastric and duodenal ulcers can be cured by proper medical management. He assumes that acid corrosion is the prime factor in the production of symptoms and the retardation of healing of the ulcer. None of his patients are treated surgically except for perforation, peri-gastric abscess, secondary carcinoma, hourglass contraction of the stomach, hemorrhage (of doubtful value) an high-grade pyloric obstruction. Even when marked obstruction is present, he claims it is caused by infiltration, oedema and swelling, and not by an actual cicatricial narrowing; and in 90 per cent of such cases proper medical management wil be sufficient to relieve the obstruction in two weeks' time. He claims, also, that gastro-enterostomized patients are not cured, but symptomatically relieved by drainage and slight reduction of acid corrosion. He considers such surgical procedures unnecesary, dangerous and accompanied by frequent complications. Dr. Sippy has worked out and practiced a management that has been eminently satisfactory in his hands, and there is no doubt but that patients are greatly relieved while under his supervision.

On the other hand, many surgeons take the opposite view, and claim that all such ulcer patients should be treated surgically, and they practice it with equally good results. Possibly a more rational middle ground can be reached where the internist can treat some of the mild, early cases without apparent or actual obstruction, and the surgeon handle that very definite group of cases actually starving on account of obstruction. In no phase of medicine do we need such unity of effort and team work as in the management of peptic ulcers.

Duodenal ulcers are about three or four times as common as gastric. Males are much more commonly affected than females, while the opposite is true of gall bladder disease. There is a definite syndrome of symptoms in most ulcer cases. Graham has observed that the average duration of symptoms of duodenal ulcer before applying for surgical treatment is twelve and a half years. It has been said by a prominent surgeon who does a great deal of gastric surgery that most of his cases coming for surgical treatment have had nine complete and permanent medical cures. This emphasizes the tendency to recur and definite remissions.

The illuminating work of Rosenow has demonstrated that chronic gastric and duodenal ulcers are probably due to bacteria invading the blood and localizing in the mucosa, producing necrosis, followed by digestion of devitalized tissue. The persistence of bacteria in the base of the ulcers probably explains why they so infrequently heal spontaneously. Moynihan has been criticized for the statement that he could make a diagnosis of duodenal ulcer by correspondence. If the patient can intelligently detail his history it is not far wrong to say that one can make such a diagnosis in 80 per cent of cases. A good history is worth more than all other aids to diagnosis. Seasonal attacks, complete remissions, pain at a definite time following meals, of a hunger character relieved by food and alkalis, is very characteristic of peptic ulcers. The remissions are so complete that the fact that they get well is of as much diagnostic value as is the history of an attack. When the history is atypical, or when there are other diseases present, such as gall stones or appendicitis, the diagnosis becomes a more difficult matter. When the ulcer has advanced to the obstructive stage, the symptoms are more continuous and the remissions less definite. Vomiting is usually a late manifestation. Hemorrhage occurs in about 25 per cent of both gastric and duodenal ulcers.

In the surgical treatment of duodenal ulcer, posterior all catgut gastroenterostomy is the method of choice. In selected cases pyloroplasty, after the method of Finney, is very satisfactory. When the ulcer is small and no obstruction present, it may be excised and the opening closed after the method of Heineke-Fikulicz. If there is a recurrence of symptoms, it is probably due to faulty technique. The use of catgut instead of silk or linen has been of value in preventing the formation of gastrojejunal ulcers at the site of the anastomosis. It is not uncommon to find strands of silk or linen hanging in the stoma several months or years after the gastro-eenterostomy has been done. There is no evidence to warrant the belief that blocking the pylorus is necessary. If the ulcer is of the perforating type or there is a history of hemorrhage, then one may purse-string the ulcer and partially block the pylorus to advantage.

---

*Read at annual meeting Tennessee State Medical Association at Memphis, April, 1918.

Gastric ulcer is a more serious condition than duodenal. The cancer liability when on the gastric side of the pylorus is to be reckoned with. All chronic calloused gastric ulcers are potentially malignant. More than 30 per cent of all cancers occur in the stomach. Ulcers of the stomach produce deformity and mechanical crippling of the motor function, but duodenal ulcers do not. Experience has shown that ulcers on the lesser curvature are not usually cured by simple excision. The greater curvature corresponding to the location of the ulcer is in some way crippled, and one often finds it necessary to do a gastroenterostomy later. The majority of gastric ulcers are situated on the lesser curvature and nearer the pyloric end. Such ulcers lend themselves easily to excision. The mortality is much higher in excision with the knife than that by the actual cautery. Balfour has shown that cautery excision of the ulcer is quite safe, and the resulting scar produces a limited amount of deformity. The heat destroys the ulcer and also the cancer liability. The opening thus made should be closed with chromic catgut and reinforced by a layer of omentum to prevent leakage. Gastroenterosttomy should always accompany this procedure. The results obtained by such treatment are exceedingly favorable. Very large ulcers, too large for the Balfour cautery method, and especially those producing some hourglass contraction, are best treated by resection in continuity or sleeve resection. It has been pointed out by W. J. Mayo, Stuart and others, that the motor power of the stomach is greater after such resection than following simple excision of the ulcer and the triangular piece of tissue from the lesser curvature. Marked hourglass stomach may be treated by a gastro-gastrostomy or single or double gastroenterostomy. It is sometimes difficult to tell whether a lesion is an ulcer or a carcinoma. There are usually more oedema, swelling and adhesions in the ulcer cases. If there is a carcinomatous degeneration of the ulcer, it is best treated by a resection of the pyloric end. The Billroth No. 2 method of resection is very satisfactory in most cases. In selected cases the Polya operation gives splendid results. Probably the most satisfactory operation, and one most applicable to all cases of resections is the Mayo modification of the Polya resection by anastomosing the jejunum on to the remaining pouch of the stomach as an anti-colic anastomosis.

DISCUSSION.

DR. J. HUGH CARTER, Memphis: I appreciate very much the doctor's paper, and I also appreciate the value of time in the newer methods of diagnosis.

This subject should be brought to the attention of the medical profession more frequently than it is, and should be made more impressive than it usually is. I think we all agree in chronic cases of gastric or duodenal ulcer, the treatment is surgical. In the primary stage every patient should be afforded medical treatment, whatever that treatment is, but each one of us should understand what the medical treatment is for these cases. I do not know of any good textbook that will show us clearly what the medical treatment is. A point I wish to emphasize is that we should study our cases more closely and endeavor to make a diagnosis of gastric conditions more frequently. We know it is very hard to make a differentiation between duodenal and gastric ulcers and gall-bladder diseases when they are very closely associated together. However, I believe if one takes a careful history of the patient and the disease he can make a diagnosis with the aid of the x-ray.

I would like to emphasize the point that we should use the x-ray more than we have in the past to aid us in the diagnosis of duodenal and gastric ulcers.

I believe the only treatment for chronic gastric ulcer or duodenal ulcer is operation, and the sooner it is done the better, and we should not wait until the strength of the patient has been undermined before undertaking the operation. The most important thing is to make an early diagnosis and operate promptly. Do the operation described by most operators a gastrojejunostomy, with blocking the pyloris.

One point the essayist emphasized was that there are two schools in regard to the closing or blocking the stump. We do not know what the percentage of favorable results is. Some give one per cent of successes, and some another. If we do not block the duodenal end or pyloric end of the stomach, the opening will soon close, and we will have the same condition to contend with. I think each case is more or less a law unto itself as to the conditions found at the time of operation, and the surgeon should be the only judge of what to do.

DR. G. C. SAVAGE, Nashville: In passing from the eye to the abdomen, I am getting entirely out of my territory. I believe every operating room, where the stomach is to be operated on, or the duodenum, for ulcers that may be or might become cancerous, should be equipped with machinery for producing the high-frequency current of electricity, and the spark dessication treatment should be used, and not the galvano or thermo cautery or actual cautery. In my paper today I quoted from Dr. Clark that either the cautery, or thermo or galvano cautery, is not the proper measure to use when you are dealing with cancer cells; and there may be cancer cells in any of these ulcers. He thinks that the high-frequency spark of electricity (dessication) would be far better to use.

Getting into my territory again (above the collar bone), I would give to those patients suffering from gastric ulcer an abundance of pure apple vinegar on all their vegetable diet, both before and after operation, because of its power to inhibit germ life, and to promote cell activity.

DR. E. J. JOHNSON, Memphis: Dr. Sanders has given us a splendid presentation of this subject, and I have enjoyed his paper very much. In dealing with the surgical mechanics of the stomach, it is very much like dealing with the surgical mechanics of the gall bladder. Some advocate removing the pathologic conditions found and others say leave them. I think the main thing in considering a surgical proposition, such as operating on the stomach, is to let each case be a law unto itself. I have had several cases of duodenal ulcer to deal with, and it has been my personal observation that where you attempt to remove the ulcer and close it, there are two conditions to consider, one of which is due to a neurotic condition in the tissue from extension of the ulcer even beyond the finger, and you may have an additional slough. The other condition was illustrated in a case I operated on recently. I did a pylorectory on a man where a surgeon previously had closed his ulcer in a creditable manner. The man had a perforation and was in a dying condition. I got in there, closed him up and saved his life. Subsequently, he had a contraction, or narrowing of the lumen of the gut, and a beginning carcinoma. So in that case I did a simple pylorectomy, closing the duodenal end and doing a gastrojejunostomy on the remaining portion of the stomach.

A young man, a recent case, had had so-called stomach trouble or indigestion for fifteen years. He ate a hearty lunch, shortly after which he was seized with an acute lancinating pain as if a knife had been driven into his abdomen; he fell to the floor and his physician was sent for. His physician gave him opiates, and repeated the dose until he gave a grain of morphin. In a few moments he was as rigid as a board. This was 2 o'clock in the afternoon. I was called at 9 o'clock that night. A diagnosis of perforating ulcer was made. We opened up the abdomen and found the contents of the stomach all over the peritoneal cavity. The tea and buttermilk and sausage were out in the pelvic cavity. In this case the ulcer was at the pyloric sphincter, and the perforation was large enough to introduce the finger into it. I simply did a quick pylorectomy, put on a clamp as described by the essayist, did a section, closing the duodenal end and stomach end, then did a gastroduodenostomy. I cleaned out the debris from the peritoneal surfaces with several gallons of saline and instituted the drainage in the loin and pelvis. This man made a beautiful recovery. He is perfectly well today. He showed some shock a few hours after he came off the table, but got along surprisingly well.

In dealing with the hour-glass ulcers, as he has described, I have twice operated just after the fashion of Mayo, having operated on one case about six months ago. I did a resection of the stomach and never saw a case do better. The mechanics have been perfectly satisfactory, and it is not at all difficult to do gastroenterostomy in such cases.

I know of no subject that is more important to bring before the Asociation for discussion than the one of how to deal with gastric and duodenal ulcers The inclination is to carry medical treatment too far. It is all right in acute ulcers to put patients to bed to rest, but if a man or woman does not get well, if they should continue to have gastric disturbance when at rest, then you had better look out, because there are so many cases that go on to a fatal termination from perforation of the carcinomatous stomach.

DR. ROBERT CALDWELL, Nashville: There are one or two points I would like to emphasize in connection with this paper, one of which is the value of the history in making a diagnosis in these cases. If we think of that and study carefully our histories of these cases, it will help us materially in making the diagnosis.

One point the essayist made is very important, that the absence of symptoms in these cases is sometimes as diagnostic as the presence of symptoms.

In a recent article published in Surgery, Gynecology and Obstetrics, the author (a Chicago man) has had considerable experience both in human beings and in experiments on animals in doing gastroenterostomies without clamps, and claiming to improve his mortality very materially by not inflicting traumatism incident to the use of these clamps. That has appealed to me very much, and in the last case I operated on recently, I did the operation without clamps. The patient was a woman with complete annular stricture at the pylorus. She manifested no shock whatever. I never had a patient do so satisfactorily. That is the only case I operated on without clamps, but I did the operation more easily without a clamp than with it.

DR. R. L. SANDERS, Memphis (closing): I wish to acknowledge my appreciation of the points I have been able to work out while I was at the Mayo Clinic, and I am indebted to Dr. William J. Mayo and Dr. Judd for the opportunity of bringing out the different points about the incision. One case in particular of excision by the cautery method that came under my observation about four or five months ago was an old man, 73 years of age, with a definite history of gastric ulcers, which I was able to excise by the cautery method, and close it by a posterior gastroenterostomy, using all catgut, and he made a beautiful recovery.

If there is one point in the paper I wish to emphasize more than any other, it is the use of the cautery in excision of the ulcer and using all catgut in doing a gastroenterostomy.

With regard to blocking the pylorus, one may do it and get away with it, while other men do equally as well without it. I do not think it is necessary, and it does not do any harm if you do it, but it does not matter whether you block the pylorus or not. There is a disadvantage in case you have a recurrence of the symptoms by the production of a gastrojejunal ulcer.. If the pylorus is blocked, I doubt whether this can be done. Your blocking is done away with and your pylorus is open again. Brewer has used aluminum tents; Eisendrath has used fascia from the abdominal wound, and men have resorted to all sorts of schemes. You cut down to the mucosa and ligate and the tents and strings slough through and the pylorus has re-established itself. It is really hard to block the pylorus when the string is gone and the pylorus is patent. If you do block it, as I did, and should have a recurrence of the symptoms, it is a difficult matter to excise the ulcer and do the Heinecke-Mikulicz type of closure or the method of Finney. Personally, I do not think we can do any blocking except in those cases where we have perforation. If we do have perforation, pursestring it with silk and turn in the omentum and block the pylorus. After healing, the blockage is no longer complete.

In case of hemorrhage we block for its control. The no-clamp method is to the point. It is easy and it is really the European method. They use clamps very infrequently. It is unnecessary to apply a clamp. If the patient should wake up and the contents should escape into the wound, it does not matter, as the stomach contents are sterile.

War Savings Stamps help provide that "Force, force to the utmost, force without stint or limit, the righteous and triumphant force which shall make right the law of the world," which President Wilson says must be used against our enemies.

LARYNGEAL TUBERCULOSIS: ITS EARLY RECOGNITION AND CURATIVE TREATMENT.*

By C. A. ROBERTSON, M. D.,
Ridgetop.

The complications of pulmonary tuberculosis are varied and distressing, but it may be said with truth that the involvement of the larynx is by far the most frequent and serious, often giving rise to a most horrible clinical picture.

Until quite recent times it has been conceded by practically all observers that laryngeal tuberculosis was an incurable affection; that all victims of this complicating condition were doomed to an early death; and that further than temporary relief from pain, treatment was of no avail. Modern methods have changed this condition of afairs, as we hope to show, and today tuberculosis of the larynx is quite amenable to treatment, and with persistent effort is frequently cured.

The frequency of this condition is greater by far than the average physician appreciates, as is revealed by careful clinical analysis and systematically conducted autopsies. Authorities vary greatly in their estimate of the frequency of the disease, some claiming that it occurs in as low as five per cent and others in as high as fifty per cent of all cases of pulmonary tuberculosis. Fishberg states that it is probably correct to assume that there is one case of laryngeal involvement out of every three cases of pulmonary tuberculosis. In 1598 cases treated at Stony Wold Sanatorium, Lake Kushaqua, New York, Lent reports 586 cases, or 18 per cent. Fetterolf, in a series of one hundred fatal cases of pulmonary tuberculosis submitted to autopsy at the Henry Phipps Institute, reports 83 cases of tuberculous disease of the larynx and four others in which the existence of tuberculosis of the larynx was doubtful. Pottenger reports 61 cases of tuberculous laryngitis among 208 cases of pulmonary tuberculosis in his institution, or 29.3 per cent, which he says is a fair average for the past twelve years.

It will be seen from the foregoing that there is a great discrepancy between the frequency of laryngeal tuberculosis based upon clinical investigation and autopsy findings, which may be explained upon the ground that the larynx is not routinely examined by ocular inspection in all cases of pulmonary tuberculosis, irrespective of symptomatology referable to the larynx; whereas, on the other hand, careful, painstaking and systematic investigation, both macroscopic and microscopic, is the rule in the proper conduct of autopsy work. The development of laryngeal tuberculosis as a terminal condition in the last weeks of advanced tuberculosis, when the patient is too ill for laryngeal investigation and recognized as utterly hopeless, will to some extent further explain the discrepancy between the clinical and postmortem diagnoses.

---

*Read at annual meeting Tennessee State Medical Association at Memphis, April, 1918.

It is fair to assume that if a careful laryugoscopic examination were made of every patient presenting himself suffering with pulmonary tuberculosis, this much-dreaded condition would be revealed in more than half of the cases, and at a time, too, when treatment would be availing and untold suffering avoided.

Tuberculosis of the larynx occurs more frequently in males than in females, in the proportion of approximately three to one, and the disease is likely to be much more severe and rapid in men than in women. There is no age exempt from tuberculous laryngitis. A case has been reported in a child one year old, and a few cases have been observed over seventy. However, the period of its greateest frequency is between twenty and forty years of age.

Tuberculosis of the larynx is a complication of pulmonary tuberculosis. The existence of the disease as a primary infection has not been proved, and the few cases that have been reported are open to question. In a fairly large experience covering a period of many years, I have not seen a single case unassociated with tuberculous disease of the lungs. Dworetzky says that tuberculous laryngitis is always secondary to pulmonary tuberculosis, which doubtless represents a consensus of opinion of the men who ought to know.

Just why the larynx is so frequently involved as a complicating condition of pulmonary tuberculosis is difficult to explain, and the causes predisposing to tuberculous laryngeal disease are not clearly understood. To be sure, tubercle bacilli gaining lodgment in the structures of the larynx from some distant pulmonary focus or foci is the sole causative factor, but just how these tissues are invaded is even today problematical.

There are three routes by which this local infection may occur: First, through the lymph stream; second, through the blood; and third, through contact or surface infection—any one or all of which it is admitted may be the avenue of infection. There must, however, be some additional factor bearing upon tuberculous laryngeal infection which is not at present known. There is no connection by the blood or lymph stream between the structures of the larynx and the lungs; and if the infection is hematogenous, it is difficult to understand the special selection of laryngeal structures for the deposit of tubercle bacilli through arterial capillaries. Laryngeal metastasis from pulmonary foci through the lymph stream is, in the light of present knowledge, untenable and doubtful.

In connection with contact or surface infection through the agency of sputum contact with the mucosa of the trachea and larynx, perhaps in the presence of denuded epithelium, we have to call your attention to the experience of Shurly and Gibbes, who more than twenty years ago scarified the pharynx and epiglottis of several healthy monkeys and applied sputum from tuberculous patients, without producing local tubberculosis in a single instance. They also scarified the pharynx, epiglottis and arytenoids of two monkeys suffering with pulmonary tuberculosis, without producing a local infection. They report a tuberculous patient who suffered severe traumatism of the pharynx, epiglottis, aryteno-epiglottidean folds and arytenoidal membrane, by the removal of a chicken bone, in which great swelling and tumefaction resulted, with no subsequent development of a tuberculous lesion of the larynx or pharynx that could be detected by the laryngoscope, although the patient lived some eighteen months after the accident.

Surface infection is argued by many observers, including Pottenger and Bandelier and Roepke, the latter quoting Orth, Moritz, Schmidt and Fischer, referring also to the animal experiments of Albrecht, who has demonstrated the invasion of the larynx through the circulation in rabbits. But from our present conception of the etiology of tuberculosis—that tuberculous disease is a metastasis from latent glandular involvement of childhood—we must conclude that the predisposing and determining factors in the production of tuberculous laryngitis are as yet not understood.

Tuberculosis of the larynx may ocur as (1) edema, preceding or associated with infiltration; (2) ulceration; (3) tumefaction; (4) tuberculoma; (5) papilloma; (6) miliary tubercles; (7) chronic fibro-nodular tuberculous laryngitis or lupus.

The symptoms of laryngeal tuberculosis, both subjective and objective, depend upon the stage during which the patient comes under observation and the location of the disease in the laryngeal structures, and varies considerably within rather wide limits. It must be remembered that, with the exception of lupous laryngitis, there is no such thing as tuberculous disease of the larynx without co-existing pulmonary tuberculosis. Therefore, in all patients complaining of throat distress in whom pulmonary tuberculosis is known to exist, we have just cause to suspicion tuberculous disease of the larynx, and a careful laryngoscopic examination should be made. In patients apparently in robust health and where tuberculosis is unsuspected, complaining of symptoms indicative of serious chronic disease of the larynx, as presently outlined, a careful physical exploration of the chest is apparently necessary before arriving at definite conclusions as to the nature of the involvement.

The earliest subjective manifestations of tuberculous laryngitis are characterized by discomforting sensations of an annoying character, such as tickling sensations in the throat, sensations simulating the presence of a hair or a small piece of wood fiber, dryness, or perhaps hypersecretion, associated with a short, hacking cough. Sooner or later hoarseness supervenes in the vast majority of cases. This hoarseness may amount to only a slight huskiness of voice in the morning, passing off during the day, with its diurnal recurrence; in the chronic cases gradually deepening to the extent of disphonia, or perhaps with complete loss of voice (aphonia). Hoarseness does not occur in all cases, and depends upon the location of the disease in the larynx. If there is no involvement of the vocal cords, ventricular bands or posterior commissure interfering with the function of the vocal cords, hoarseness may be absent throughout the course of the disease. Dworetzky found this symptom present in 82.6 per cent, or in 71 out of the 86 early cases, and 95.3 per cent, or 61 out of the 64 moderately advanced and advanced cases which he analyzed.

Pain is a common symptom and may be ever present, often radiating to the ears and throughout the lower jaw, and in a fair number of cases is horribly severe. It may be the chief factor in the starvation of the patient, on account of the dread and inability to bear the pain of deglutition. With the exception of lupous laryngitis, pain is a most conspicuous symptom of tuberculous disease of the larynx. Tenderness, often amounting to soreness, is the cause of much discomfort in a fair number of cases. As a result of pain and soreness, odynophagia, dysphagia and dysphonia characterize at some time the majority of cases.

In the cases characterized by marked infiltration and hyperplastic tissue, obstruction to respiration may occur, and there may be dyspnea, associated with more or less stridor. In rare cases, this condition may be so serious as to demand tracheotomy for relief.

Regurgitation of fluids through the nose is not of infrequent occurrence.

The objective manifestations of laryngeal tuberculosis are easily recognized by laryngoscopic examination in practically all cases, and the technic of this procedure is by no means difficult. An ocular inspection of the larynx should be a part of the routine examination of every physician who presumes to give an opinion on intrathoracic tuberculous disease. Hence, there is no excuse for overlooking these grave laryngeal involvements. To be sure, there are other diseases which at times may be responsible for many and perhaps all of the subjective symptoms outlined, but if they are present with co-existent pulmonary tuberculosis, a mistake in diagnosis will be very rarely made.

The several phases or stages of laryngeal tuberculosis, such as edema, infiltration, ulceration, tumefaction, tuberculoma and papilloma, may occur at the same time or somewhat successively, one condition merging more or less into the other as the disease progresses: and in a given case one, two or more of these phases may characterize the clinical course of the disease.

One of the earliest pathologic changes in the larynx due to tuberculosis is a somewhat soft edema with slight swelling of the mucosa, as represented in the left arytenoid of Figure 5. At a somewhat later period, from six weeks to three months, according to the virulence and acuteness of the infection, we may have a rather marked infiltration, as represented in Figures 2 and 6. The tendency of this infiltration, with its associated hyperplasia, is to undergo ulcerative necrosis, presenting conditions as are shown on the epiglottis of Figures 7, 8 and 9, and on the left arytenoid, aryteno-epiglottidean fold, ventricular band and vocal cord, as shown in Figure 10. The massive inflammatory changes not infrequently manifest themselves in tumefaction and swelling of the softer structures of the larynx, such as the ventricular bands, as represented in Figures 11 and 12.

A granulomatous infiltration becoming well circumscribed may exist in the form of a tuberculoma as the sole pathologic change, or associated with infiltration or any of the other phases of tuberculous disease of the larynx. Such a tuberculoma is represented as involving the left ventricular band and processus vocalis in Figure 13.

As the disease progresses, particularly in cases of rather high resistance showing a tendency to cicatrization and fibrosis, papillomatous excrescences are produced, which may be situated either upon the posterior wall of the larynx below the vocal cords, as shown in Figure 3, higher up between the vocal processes as shown in Figure 15, or in the interarytenoidal space above and out of the way of the vocal cords, as shown in Figures 8 and 12. Attention is called to the fact that in so far as the papillomatous involvement is concerned, no symptoms would be produced in a case represented by No. 3, while in No. 15 aphonia or complete loss of voice would certainly result; whereas, in No. 8 there would probably be no impairment of voice sounds. Of course, in these instances we are assuming that the vocal cords and ventricular bands are normal, and that there is not enough arytenoidal infiltration or perichondritis to interfere with the approximation of the true cords in the act of phonation.

Miliary tubercles and the decidedly acute forms of infection run a rather rapid course, terminatin in extensive destructive ulcerations, which involve not only the cartilaginous structures of the upper end of the windpipe, as shown in Figure 14, but may include in one massive destructive process all of the tissues of the larynx, including the upper portion of the trachea.

Lupous laryngitis has no connection with the other forms of tuberculous laryngitis, and is usually discussed as a separate disease entity. This condition is practically always secondary to lupus of the skin or neighboring mucous membranes, such as that lining the nasal chambers. The writer now has such a case under observation in a man fifty-one years of age, which developed subsequent to extensive lupous disease of the nasal septum. This patient has suffered many years with chronic pulmonary emphysema, subsequently developing tuberculous pulmonary fibrosis. His larynx is represented by Figure 4. Lupous laryngitis is characterized by multiple submucous nodular tubercle deposits, with but little tendency to caseation and ulceration, by great chronicity, and very slight or no pain or other subjective symptoms, unless the posterior commissure in the neighborhood of the processus vocalis is involved, in which case the patient may manifest more or less hoarseness.

It is well to know that ocasionally we encounter certain pathological changes in the larynx that strongly resemble tuberculous disease, but they are usually found in non-tuberculous patients, who are the victims of nasal stenosis, accessory sinusitis, bronchiectasis or abscess of the lung.

Syphilitic disease of the larynx bears a striking resemblance to laryngeal phthisis, and it is often impossible to differentiate macroscopically syphilitic and tuberculous ulcerations here, as in other parts of the body. The rule of older writers that "anterior lesions are syphilitic and posterior tuberculous" has no diagnostic importance. However, the history of the case, showing a luetic infection and complement fixation on the one hand, and the non-existence of pulmonary tuberculosis and negative tuberculin tests on the other, should remove all difficulty in nearly all doubtful cases. In those exceptional cases suffering from lues and tuberculosis at the same time, it may be very difficult to determine the exact nature of the laryngeal involvement, but even here the therapeutic test may clear up the situation. Under these circumstances, however, there is but little to gain by a more accurate diagnosis, since the patient will receive the appropriate treatment for both infections.

Carcinoma is so characteristic and offers so little interference with a correct diagnosis that we will not take up your time in a discussion of this and the few other conditions which may be confounded with laryngeal phthisis, which is always secondary to and associated with pulmonary tuberculosis.

The prognosis of laryngeal phthisis depends upon many factors, the most important of which is probably its early recognition—followed very closely by the extent, stage and virulence of the pulmonary involvement, together with the vital resistance of the patient. In early laryngeal disease characterized by edema and infiltration, with early pulmonary disease of low virulence, or moderately extensive inactive or quiescent lung involvement, with high resistance, the prognosis is excellent and such cases under proper treatment almost always end in recovery. In severe and rapidly advancing pulmonary tuberculosis, with low vital resistance, laryngeal tuberculosis is of the gravest significance. Extensive and destructive ulcerative changes occurring as a terminal affection are only too often encountered, with a horror of pain and suffering so appealing to human sympathy that one often feels tempted to induce a much-desired euthanasia.

Thus it will be seen that the prognosis in the majority of cases depends upon that of the pulmonary disease, which it will be recognized is radically different from the generally accepted opinion of former times, when it was taught that in laryngeal disease complicating pulmonary tuberculosis the prognosis was wholly dependent upon the laryngeal affection. Modern treatment in properly selected cases has converted this hitherto grave condition into the most curable of all tuberculous diseases. Early diagnosis, early non-extensive or quiescent pulmonary disease, good vital resistance, time, much patience, and proper treatment lead to recovery in a great number of instances. Patience and persistence is of greatest importance, and Pottenger has well said that "many cases heal in eight months that would have been classified failures in six; others in a year that would have been failures in a shorter period."

The writer has under his care at this time a lady, age thirty-six (whose larynx on admission is represented by Figure 2), who was apparently hopelessly ill of laryngeal tuberculosis, with quiescent pulmonary disease, at the end of four months—suffering with odynophagia, disphagia, obstructive respiration and aphonia. At seven months she was markedly improved and presented a laryngeal picture as represented in Figure 3. At eight months, at the time of writing this paper, the papillomatous involvement of the posterior laryngeal wall has disappeared, all ulcerative changes have healed, her voice is almost entirely restored, and today she communicated with her husband at a distance of a hundred miles over long-distance telephone and was distinctly heard by him.

In the treatment of laryngeal tuberculosis we must recognize the fact that the tuberculous disease is but another metastatic localization of a general tuberculous infection, associated with pulmonary tuberculosis, which we regard as a metastasis of early childhood infection, the primary focus being in the lymphatic system. The general regime for tuberculous involvements elsewhere is therefore not altered in the presence of tuberculous disease of the larynx. Rest, life in the open, tonics, proper diet, hygienic management, discipline, well-directed individualization form the basis of treatment so essentian to success. Heliotherapy and tuberculin become of especial importance in their proper application in cases suffering from tuberculosis of the larynx, and will receive special consideration in this paper.

In connection with the question of bodily rest, we consider the enforced rest of the larynx as of paramount importance, and in all cases the patient is instructed not to speak, even in a whisper. A card is placed over the head of the bed, reminding nurses and visitors that the patient is not allowed to speak, and requesting that they refrain from attempts at conversation. The patient is supplied with a pad and pencil by which means all necessary conversations and communications are effected. The patient is even advised to avoid all unnecessary use of the muscles in the region of the hypopharynx.

There is no form of tuberculosis in which tuberculin is of more undoubted value in its proper administration than in the treatment of laryngeal phthisis, and we believe this agent to be indispensable to a cure. That tuberculin cannot be administered in all cases with beneficial results must be recongized, and that the general practitioner should not undertake tuberculin therapy in the home by rule of thumb administration is equally true. The proper administration of tuberculin, adequately meeting the needs of the individual case, demands a judgment only possible to acquire after years of experience and study. The selection of cases and the graduation of dosage, with its subsequent and oft-repeated modifications, involves the consideration of so many questions of a clinical and scientific nature, rendering continuous daily contact of physician and patient so necessary, that sucess from this agent cannot reasonably be expected except under conditions of institutional care. I shall not attempt at this time to enter into a detailed discussion of tuberculin therapy, as time will not permit, but suffice it to say that we consider the proper use of tuberculin in properly selected cases indispensable and of tremendous importance in the prevention of recrudescence.

Iodin has long been considered a remedy of value in the treatment of tuberculosis. Indeed, L. Bandreau and some other French clinicians consider iodin as a specific. From the fact that the administration of iodin and iodids often results in the appearance of tubercle bacilli in the sputum when not otherwise present, there has been a general impression that iodin and iodin compounds have a strong tendency to the dissemination of tubercle bacilli by favoring caseation and autolysis, also interfering with connective tissue fibrosis and healing.

Jobling and Petersen have shown that caseation and autolysis occur the more readily in proportion to the iodin content of the tissues involved in the tubercular area, which, combining with the unsaturated acid radicals of lipoids, reduces the antitryptic ferment and exposes this material to the autolytic substances contained in blood serum. Loeb and Michaud have shown that tuberculous caseating necrotic tissue contains a relatively greater amount of iodin than the uninvolved tissues and organs of the body, and that when iodin compounds are injected into the bodies of tuberculous animals, the areas involved take up more iodin than the other tissues. From the work of Jobling and Petersen we learn that tubercle bacilli contain ferment-inhibiting substances designated as anti-trypsin, and combined or free fatty acids of lipoids, and that by the administration of iodin these fatty acids are saturated to the extent of reducing the antitrypsin, exposing tubercle bacilli to the autolytic activity of blood serum and tissue juice—rendering iodin of inestimable curative value in the treatment of tuberculous disease. In tuberculin we have an antigen of great power in the stimulation of specific autolysis and other antibody production, which, when administered in the presence of an iodinized condition of the system, exerts a powerful influence in the cure of certain otherwise favorable tuberculous lesions.

Stimulated by the work of Jobling and Petersen and the experience of Bondreau, I have been administering tincture of iodin in all of my cases for the past year, with marvelously improved results. The lady now under observation here reported, whose larynx is represented by Figures 2 and 3, has received iodin in ascending doses throughout the course of her treatment at the Watauga Sanitarium—beginning with two drops of the U. S. P. tincture of iodin, which contained seven per cent iodin and five per cent iodid of potassium, increasing gradually until at the end of seven months she was taking 176 drops at a dose, or a total of 528 drops daily. During this period of seven months it was deemed advisable to discontinue iodin for about ten days on two occasions—not, however, on acount of any untoward action of the iodin. The last rest was when the patient had received the maximum daily dose of 528 drops, which was February 26, 1918. After an interval of two weeks, we have resumed its administration, and she is now taking 360 drops a day, increasing at the rate of 15 drops daily, which increase will be maintained until she reaches her maximum of February 26. It is quite probable that we will not endeavor to carry the dosage any higher than the maximum dose mentioned. That this patient would have died months ago without the combined use of iodin and tuberculin is, in the opinion of the writer, beyond question; and we now have every reason to hope that she will not only get entirely well of her laryngeal phthisis, but recover from the pulmonary involvement as well.

The work of Rollier must be convincing as to the value of heliotherapy or sunlight treatment in tuberculous disease generally, and our experience after five years of diligent and systematic application of the sun's rays to the various forms of tuberculosis has been very gratifying indeed. In the treatment of laryngeal phthisis we have afforded all patients whatever benefit could be derived from this very valuable measure, by daily exposures of the larynx to the direct days of the sun as a part of the general routine of heliotherapy, and we believe that it has been of signal advantage in many cases.

In so far as local treatment is concerned, there is very little to be said except in connection with the relief of pain. At the outset we wish to condemn in the strongest possible terms the use of cocain locally, as we believe that it has favored the degenerative and necrotic processes in the larynx. Except in the malignant, rapidly advancing and hopeless terminal cases, orthoform has been our chief reliance, and has served us well. Occasionally we have used orthoform associated with menthol, perhaps to advantage. It has been our custom to use also in combination with orthoform powdered iodoform, believing that the absorption of its iodin content would aid locally through the reduction of antitrypsin in the production of retrogressive changes.

These insufflations are made under ocular inspection by the aid of the laryngoscopic mirror, directly into the larynx, covering the tissues of the epiglottis, glottis, intralaryngeal structures and hypopharynx, repeating these treatments once or twice every twenty-four hours—and of course are preceded by the use of detergents if necessary, such as Dobell's solution. We regard the technic of insufbation of greatest importance if the best results are to be obtained.

Injection of the superior laryngeal nerve, as suggested by Rudolph Hoffman, has not been deemed necessary in any of our cases.

Do not forget that War Savings Stamps are not for the children only. Most of the squandering is done by the grown-ups.

The Government needs your money; you need the stamps.

Make every day a thrift day and help your Government end the war days.

NEW TREATMENT OF EPITHELIOMA.*

By G. C. Savage, M. D.,
Nashville.

The usual methods of treating epithelioma of the eyelids and face, up to the present, may be classified as follows: Surgery, chemical caustics, thermo-cautery, electro-cautery, Roentgen rays, radium, and electro-thermic dessication. Cures have been effected by each and all of these methods. After either of these methods the aim has been the removal or destruction of all malignant tissue at one treatment, because of the idea that the agent falling short of destruction would stimulate growth.

Cure should be the chief aim of any method of treatment of epithelioma of the face, but cosmetic results should not be ignored. As to the several methods mentioned, I will let another speak. In No. 1, Vol. I, *American Journal of Ophthalmology*, page 57, Dr. W. L. Clark of Philadelphia says: "In choosing a method for the treatment of a given case, the one that combines an equal chance of cure together with a good cosmetic result should be selected.

"Operative surgery is efficient if performed radically, but the cosmetic result leaves much to be desired. Secondary plastic operations often improve this condition, but more often fail. Operative surgery has the added disadvantage of opening blood and lymph channels, favoring recurrence. The best argument against operative surgery in the treatment of these lesions is the fact that cases are being continually referred for other treatment by the highest exponents of ophthalmic and general surgery.

"The use of chemical caustics, such as nitrate of silver, phenol, etc., is most reprehensible, as they serve only to stimulate growth. Pastes of arsenic or zinc chloride are often successful, however, when used by physicians experienced in their use; but the results are by no means constant, and even in the hands of experienced men failures are frequent. The reason for the failures can be readily seen. The depth of destruction cannot be accurately determined, and if one malignant cell is left remaining, recurrence is certain. The applications are painful, there is danger of applying pastes on the eyelids, and there is frequent unnecessary scarring. When a good result was obtained it was a matter of luck.

---

*Read at annual meeting Tennessee State Medical Association at Memphis, April, 1918.

"Thermo-cautery is superficial in action, tends to stimulate the lesion and produces a contracted scar. Its use should be condemned. This applies to either the the thermo-cautery or electro-cautery.

"The Roentgen rays are successful in a fair percentage of cases, and when they are successful the result is ideal, both from a curative and cosmetic standpoint. The results, however, are by no means constant. . . . There is a tendency to recur in a large percentage of cases sooner or later unless treated very early. It also has been observed that when the Roentgen rays are used to the limit and fail, that the tissues are in worse condition than before treatment, and because of this lowered vitality, less amenable to other treatments. More than one x-ray treatment is usually required, and often the lesion is stimulated instead of retrogressing. There is also some danger to the eye in treating epithelioma of the lids.

"The same objections apply to radium as to the x-ray, although often good results are obtained by them both."

Following the above criticism of some methods of treating epitheliomas, Clark concludes his discussion with the following paragraph concerning the dessication method by means of the high-frequency spark:

"The dessication method is one which combines the advantages of all and has none of the disadvantages of the methods mentioned. The x-rays and radium may, however, be used in some cases in conjunction with dessication to advantage. It destroys the lesion thoroughly to any depth desired, and the control is so accurate that the smallest discernible point may be treated without danger, even on the cornea. Lesions may be destroyed with one treatment, blood and lymph channels are sealed at once, and there is no resultant contracted cicatrix. There is a minimal amount of destruction of normal tissue. The percentage of recurrence computed from one hundred and fifty cases of epithelioma of the eyelids, one year or more, is less than 3 per cent.

"From a curative and cosmetic standpoint there can be no doubt that the dessication method is far superior to any other method known at the present time for treatment of basal-cell epitheliomas of the eyelids and adjacent parts."

It will be seen that Clark gives a very low percentage of recurrences, which emphasizes the value of the dessication treatment. It would be interesting to know what percentage of cases failed to yield primarily to this treatment, for there must have been some. Granting that this treatment is of the greatest value, it could not be made available to a very large per cent of sufferers, who, because of distance or poverty, or both, could not visit medical experts in the use of the high-frequency spark curent of electricity. The only means, up to the present, available to any large number of persons suffering with epithelioma is a paste, usually of unknown ingredients, offered by advertising so-called cancer doctors, who can be found not only in cities, but in towns, villages and country places as well. One cannot deny that many cases have been thus cured, but the percentage of failures must be large. The treatment is painful and is always somewhat prolonged, and usually the "cancer doctor" demands a fee that many cannot pay without great sacrifice.

The purpose of this paper is to present a treatment for epithelioma, simple in its nature; and its application can be made universal. The agent is cheap and can be had in its purity everywhere. No one need be deprived of its curative power, for the kindly hand of the family physician can use it effectively. The older cases of epithelioma might not be curable by it, but, because of its availability, cases ought not to be allowed to get old and deep.

ACETIC ACID.

Acetic acid, in one or all of its three forms, is the agent to which I would direct your attention. By the forms I mean: (a) the 99½ per cent, or the glacial; (b) the 36 per cent, or the U. S. P. acetic acid; (c) and the 6 per cent, or No. 8 acetic acid. Before setting forth the method of application in the treatment of epithelioma, I will briefly outline my first use of the agent in connection with any form of physical ailment, and how this use expanded only slightly during many years. About thirty-five years ago I found, in some medical journal, a formula for use by people so unfortunate as to suffer, in cold weather, with "chapped hands."

That formula was as follows: Acid Acetic (U. S. P.), oz. iv; Glycerin, oz. ii; Rosewater, q.s., oz. iv. This was a 4½ per cent solution of acetic acid. It was claimed by the writer that two or three applications daily of this solution would prevent chapping; or, if the chapping had already occurred, the use of the solution several times a day would bring comfort and hasten the cure. I have found nothing in all the intervening years that can do as much for these unfortunate sufferers, and have prescribed it very often. I noticed that the cuticle was softened and vitalized by every application.

My next use of acetic acid was in the treatment of corneal ulcers. The first case was a prominent lady, and the ulcer was painful and not disposed to yield to ordinary treatment. The epithelium, for some distance around the ulcer, was unhealthy. Knowing the lifegiving power of acetic acid over cuticular cells, it occurred to me to apply a 4½ per cent solution of acetic acid to the ulcer. I watched the immediate change in the ulcer and adjacent epithelial cells, which presented a whitish discoloration. After a few minutes the whiteness disappeared. The application was painful for a little while, but the secondary effect was soothing. There was decided improvement in the twenty-four intervening hours, when I visited her again. She was glad to have a second application made. Still further improvement followed. Day after day she grew better and soon was well. Agents previously used were continued, but it was the acetic acid that did a twofold good: (a) it destroyed the germ life in the ulcer without any destruction of tissue; and (b) it revitalized the corneal epithelium and hastened these cells in the work of covering the ulcerated surface. This was twenty-five years ago. During all these years I have continued to use acetic acid in the treatment of corneal ulcers with satisfaction. Under it I observed that ulcers healed more rapidly and corneal scars were less disfiguring than under other lines of treatment.

I made no further expansion in the use of acetic acid until about one year ago. About that time I was treating a man for detachment of the retina when I observed that he had on one ear two epitheliomatous patches and a single patch on one side of his nose. He was not being treated and thought himself unable to pay for x-ray or radium treatment. Remembering what acetic acid had done for me in the treatment of corneal ulcers, I ventured to suggest to him that I might be able to help him with an application which I would be glad to make. He consented, and I immediately wrapped a small piece of cotton around a toothpick, and, dipping it in my 36 per cent solution of acetic acid, applied it all over each of the three patches. On his return a few days later, these patches showed improvement. A second application was then made which was followed by still further improvement. These applications were repeated a few times; and, when there were no ugly crusts, I gave him a 6 per cent solution to apply two or three times a week. In a few months he was, to all appearances, entirely well, and without a disfiguring scar on either nose or ear.

The next case was a lady who came for the correction of a refraction error. She had on the side of her nose and cheek a large ugly epithelioma. I advised her to have it treated with x-rays or radium. She consulted one of my confreres skilled in this line of work, but for some reason she could not remain for treatment. When she reported this decision to me, I suggested to her that I could give her a prescription that might do her good, until she could return for the other treatment. I prescribed a 4½ per cent solution of acetic acid, showing her how to have it applied every second day. I made for her, that day, an application of a 36 per cent solution of acetic acid. A few months later she wrote me that "the place" was entirely well.a Other cases have come at irregular intervals, and in each case the acetic acid treatment has been given. In all, I have had about twenty epitheliomas, three being on the first patient, four on one patient, two on a few patients and one each on the remaining patients.

My experience with these cases has led me into a fairly definite routine in my method of treatment with acetic acid. It occurred to me that if epithelioma is due to germ life it would not be a bad practice to make one or more applications of the 99½ per cent, or glacial, acetic acid, even if it should cripple or destroy some normal tissue. I shall never forget the first application which I made to each of the four patches, two on the left ear, one on the right ear and one on the face, in the one case mentioned above. The scabs turned white, and the whiteness extended into the surrounding tissue for almost a quarter of an inch. Fearing that there might be destruction of healthy tissue and a consequent slough, I asked the patient to return the next morning. To my delight, no harm had resulted, but, on the contrary, there was improvement. A few days later I made an application of the 36 per cent solution, and a few days later still, another application of the same strength. This patient being a resident of Nashville, I made every application in my office. When the first scabs came off, I made a second application of the glacial acetic acid. As at the first, the whitish discoloration occurred all over and around the sore. It evidently penetrated deeply as well as widely, but no normal tissue was destroyed. In each of the places on the ears healing took place without scar formation; and there is only the slightest scar on the face, due to old ulceration.

I have established the following routine in the treatment of such epitheliomas as have come under my observation, in connection with eye practice: A small pledget of sterile cotton is wrapped around the end of a toothpick, whether one strength or another of the acetic acid is to be applied. The first application is made with the 99½ per cent solution (glacial acetic acid). The cotton is dipped into the solution, and, as it is being withdrawn, it is gently pressed against the neck of the bottle, so that there may not be an excess of the acid. Then the application is made all over the crust or scab, beginning at its center and going to the periphery and for a little distance beyond. A second or third swab may be necessary in order to cover effectively the whole area. There should be produced a dull milky whiteness all over the crust, and for an eighth to a quarter of an inch beyond its margin. After this application, the 6 per cent solution (Acetic Acid No. 8) should be applied daily, after the same manner, except that there is no danger that the quantity may be in excess, hence the swab may be taken out of the bottle without making pressure against its neck. Waiting a few days, the crust will peel off without violence of any kind. This having occurred, a second application of the 99½ per cent solution should be carefully made all over the diseased area, going from center to periphery. If the scab reforms to any great extent, whether in a week or two weeks or more, the 99½ per cent solution should be again used as before; that is, one application over the crust and another after it has come off again. Daily applications of the 6 per cent solution should be made until the healing process has been completed.

The scabby formation having ceased, so long as the surface is a little rough and uneven, applications of the 36 per cent solution (Acetic Acid U. S. P.) should be made once a week in the same manner as already set forth; and, at this stage of the treatment, the 6 per cent solution should be applied once daily.

After the surface has healed over completely, the 6 per cent solution should be continued at intervals of two or three days for a few weeks or even months, to insure that the new-formed cells shall be kept in a normal state of vitality. This weaker solution is a cell vitalizer; while the stronger solutions, when carefully applied, seem not to be cell destroyers. Each of the solutions help the struggling, half-living cells to cast off those that have already died.

The effectiveness of this treatment does not explain the nature of epithelioma. It may be due to a germ as yet undiscovered; and, if so, the acetic acid cures by destroying this germ life, going beyond the diseased area, deeply and widely, in search for those germs that are disposed to wander. Some known germs are killed and all germ life is inhibited, by even a 6 per cent solution of acetic acid. The 36 per cent solution will probably destroy the life of any germ, while the 99½ per cent solution will certainly do so. While destroying germ life, acetic acid spares the life of even feeble body cells, and stimulates all cells with which it comes in contact into a higher state of vitality. It is a cell vitalizer and a germ destroyer.

If epithelioma be not a germ disease, but depends on deranged cell activity—faulty metabolism—from either disturbed nerve action or insufficient blood and lymph supply, acetic acid shows its power for good, by its effect on the cells of the part, either through stimulation of the nerve supply or increasing the circulation of the part.

My report to the Nashville Academy of Medicine on the treatment of epithelioma with acetic acid has brought out two bits of interesting medical history, previously unpublished. Dr. Deering J. Roberts, a former president of this Asociation, in discussion, stated that Dr. Joel Owsley of Burksville, Ky., was afflicted with an epithelioma on the lobe of his ear. Among many others, he consulted Dr. S. D. Gross, who, with the others, advised that the diseased part should be excised. The operation was declined and the disease continued to advance. By accident or otherwise, he learned that pure apple vinegar would allay the itching of the diseased part, and began its use for that purpose. He lost a part of the diseased lobe, but his cancer was cured and remained cured to the end of his life. For the last twenty years of his life he carried in his pocket every day a small bottle of pure apple vinegar, the purpose of its use being to allay the itching that would occur at intervals. He apparently did not know that the vinegar, a 6 per cent solution of acetic acid, had cured him and had kept him cured.

The other incident was connected with the life and practice of Dr. Thomas L. Maddin. The facts were related to me by our confrere, Dr. George H. Price, concerning a gentleman well known to him, who developed an epithelioma on his face. This condition, before it had made much advancement, was treated by Dr. Maddin and the agent used was an infustion of mullein in pure apple vinegar. The disease was cured and remained cured to the end of his life. In the light of my experience with acetic acid, I would conclude that it was the vinegar and not the mullein that effected the cure.

Still another incident which many of the former pupils of Dr. Maddin will remember, as related by him, will be given as a conclusion to this paper. In effect, the story is as follows: Dr. Maddin was called into the country to consult, with her family physician, about an epithelioma on a lady's face. In the course of time it had made such progress that Dr. Maddin gave an unfavorable prognosis and expected the cancer to kill her in the near future. He advised treatment and returned home, not expecting to see her again. Ten years afterwards she called on him in his office in this city to express to him her gratitude, for she had been cured. She told the doctor who she was, where she lived, and how she was afflicted. After listening to her story, Dr. Maddin said to her: "You can't be that woman, for she must have died ten years ago." He had to agree, however, that it was she, for she bore a scar at the old site of the disease. I am not able to state definitely, at this time, the treatment which he prescribed, but all the circumstances point to the probable fact that it was the infusion of mullein in pure apple vinegar. I will be glad if some pupil of Dr. Maddin, in this audience, may be able to recall this case and state with exactness the remedy used.

DISCUSSION.

DR. WILLIAM LITTERER, Nashville: Dr. Savage has given us a very interesting report of cases of epithelioma treated by him by the acetic acid method. The paper, one might say, could be scientifically criticized on the ground that he did not have a microscopic examination made of any of his cases. I would not say that out of the number of cases reported there were not some that were epithelioma, but we ought to know absolutely whether or not they are carcinoma or epithelioma from a microscopic examination before we can say positively that the condition was cured by such a method.

Dr. Savage asked me to investigate the value of acetic acid by carrying on some investigations several months ago, which I did, and I can only give you a preliminary report of those investigations that I have been making with reference to acetic acid.

I find that acetic acid will inhibit most germ life at about six per cent; some bacteria can live in a higher per cent of acetic acid than that. It takes a much stronger solution than six per cent to actually kill the bacteria.

I also made experiments with other acids, and among them hydrochloric acid, and we all know it is a well-known fact that hydrochloric, sulphuric and many other acids have more powerful bactericidal properties. It must be something else than the acetic acid that has the actual bactericidal powers. I also worked with the protozoa and found very interesting things. I took paramecium and fresh water hydra and a few amebae that are found in ponds, which are common protozoa, and subjected them to different strengths of acetic acid, and to my surprise the protozoa could stand an equally high per cent—12 per cent, and even 20 per cent—without killing them. Again, I also subjected these protozoa to different chemicals and almost killed them. In other words, I subjected them in some instances to injury where they could be fragmented, and then applied weak solutions of acetic acid, and the controls did not yield as readily as those with acetic acid. You could take the amebae or fresh water hydra or paramecium, or where they were in fragmentation, and they would apparently yield much more quickly than those in the controls, and they could live in much stronger solutions.

It may be that the acetic acid has a stimulating effect upon cells, the healthy tissue cells, but as yet we must remember we do not know what the cause of cancer is. I have my private opinion as to the cause of it, and probably it may or may not be bacterial. My opinion is that it is not bacterial, but simply cellular.

As to figuring out how this works, the acetic acid must have a selective action upon the healthy tissue cells and a devitalizing effect upon the cancer cells, yet we figure that the cancer cells are protozoa, so my experiments do not bear out the results, except that the protozoa are increased in power, and that the acetic acid does not produce a very powerful bactericidal effect.

As I have said, my investigations are just preliminary. The work was interesting, and I intend to carry it on still further.

DR. ROBERT CALDWELL, Nashville: I do not wish to discuss this paper from a scientific standpoint, but there is one point I would like to make with reference to papers of this character presented to us where they are not backed up, so to speak, by scientific investigations. Papers of this character on this subject are potent for great harm to the profession, because Dr. Savage has reported a number of cases treated by acetic acid, but he has not proven that a single one of them was epithelioma. He supposed they were cases of epithelioma, took it for granted that they were, treated them, and said he cured them. If we accept Dr. Savage's statements, and come in contact with real epithelioma, we may delay the time when we can do our patients some good. That is a weak point in his paper, not knowing whether he had epithelioma to deal with or not.

Personally, these incrustations about the face, nose and neck, I have removed surgically, curetted them away, and they have never returned, but I did not call them epithelioma. Let us be sure that the disease is epithelioma ,and when we have proven it then we can say what our treatment is, and what it accomplishes.

Papers of this character were all right before the days of the microscope, and before it was possible to determine whether we had such and such a condition or not. It was all right, but it is not all right today, when we have this means of knowing, and we should accept these statements made in the paper with a great deal of reserve. A paper like this coming from a man with the ability and standing that Dr. Savage has in the profession is likely to do great harm, because we all have great respect for his ability and his investigative turn of mind. He ought to be very careful about presenting such papers when they are not backed up by scientific investigation.

DR. JOHN L. JELKS, Memphis: I am not able to discuss Dr. Savage's paper, because I do not know anything about epithelioma of the eyelid; but it was interesting to me, and I am glad that Dr. Caldwell has just sounded a word of warning. I was going to ask if Dr. Savage had made these investigations to determine whether these cases were really cancers or epithelioma or not. I am very glad that Dr. Litterer has cleared up that phase of the subject before us.

There is an interesting feature relative to the effects of acetic acid, and I wish to relate briefly an experience I had several years ago. It was an eye man who told me it was of great value in the treatment of corneal ulcers and other conditions that he was treating about the eye. After getting such favorable reports from this man, I went to my office and began the use of acetic acid in some of my treatments of amebic ulceration of the gut. I noticed that the ulcers of the gut did not heal.. Dr. Litterer brought out a very valuable point, in that he has explained to me why these ulcerations were not improved by the use of acetic acid. Why were they not? Dr. Savage says that acetic acid does away with disease of the ulcerative structures, and stimulates healthy cell growth. This was not the case, apparently, in those ulcerations that I treated with acetic acid.

DR. SAVAGE: What strength did you use?

DR. JELKS: I think it was five per cent. If Dr. Arthur Porter were here he could tell you exactly. I do not remember now the exact strength of the solution. This was several years ago. He was using it in corneal ulcers, also in the treatment of tubercular laryngitis cases, and he thought he had achieved remarkable results, and this induced me to practice its use in ulcerations of the rectum.

Personally, I know nothing about the eyes, but I am confident that acetic acid, hydrochloric acid, or nitric acid will not cure rodent ulcer or skin cancer.

I heartily agree with what Dr. Caldwell said about the danger of spreading this cure for cancer, because we know that such an agent as acetic acid is palpably inefficient to cure epithelioma, and particularly is this apparent to those who know anything about the pathology of epithelioma.

DR. B. W. FONTAINE, Memphis: Dr. Savage has evidently treated some cases of keratosis or keratoid conditions of the eyelid, and inasmuch as he did not make microscopic examinations of sections of tissue removed, it is reasonable to conclude that these were the conditions he treated.

DR. GEORGE H. PRICE, Nashville: There was never anything presented to any body of men which was out of the ordinary that was not objected to. I make that as a preliminary statement. If I believed that every physician of 25 or 30 years experience had had 23 or more cases under observation and was only able to hit the diagnosis in one, I might conclude that Dr. Savage's reports were of no value, but that I know to be the contrary. . I have seen a number of these cases myself of what I believed to be epitheliomatous conditions about the lid, but the patient did not. I have advised operation or treatment with the x-ray or radium in such cases, and the patients would not have it, yet at the expiration of something like six months or a year, I have seen those patients on the street with their eyelids gone, with an excavated cavity in the cellular tissue of the eye, the muscular tissue, and everything else apparently gone.. I had diagnosed these cases as epithelioma by the clinical appearance, but the patients said it was not.

If the facts which have been given to us by Dr. Savage are anything like true, even though we may make a mistake in the diagnosis of half the number of cases that were treated, if 50 per cent of them were clinically diagnosed as epithelioma and could not be relieved, by reason of the fact that they were not able to reach men who could treat them, it would be, at least, worth while to undertake the treatment by this simple method, which would, if not curative, establish the fact that it was epithelioma and could not be cured except by some other means.

I have used acetic acid in the treatment of corneal ulcers with satisfactory results time and again.

The experiments related by Dr. Litterer are confirmatory of the facts developed in the paper, namely, that acetic acid as a stimulant of tissue is well established, but in a low percentage of saturation. Dr. Litterer discovered that a low percentage of saturation would produce stimulation of epithelial tissue. That is a fact. Why do you put acetic acid on the hands, if the hands are chapped? If you wash your hands with soap and expose the superficial corneus epithelium, it becomes dessicated, and there are cracks in the skin, with tenderness. What do you do to relieve it? You apply four per cent acetic acid and the cracks are soon closed and healed, and you are all right.

What is the difference between acetic acid in its action upon the epithelial structures and corneal tissue proper? Corneal tissue is like connective tissue proper. If I use acid nitrate of mercury, I will kill the subepithelial tissue over an extensive area, and what is the result? A big, thin scar that you will never get rid of while life lasts. What is the difference between acetic acid and acid nitrate of mercury, or hydrochloric acid, or sulphuric acid, or any other dessicating acid? Let us take the cell. What does acetic acid do to the cell? It swells up and becomes white. There is an excessive amount of lymph, and you have a circum corneal ring of congestion of the epithelial structure. It reaches over the place you have already cleansed, and is beginning to propagate and the cornea is made well.

Whenever you take a caustic like sulphuric acid or hydrochloric acid, or any other acid, it destroys connective tissue and produces an eschar, no matter whether you apply it to the skin, to the eye, nose or lip, or anywhere else. What is the reason? When you have destroyed, for instance, the tissue which underlies the structure, it produces quickly an efficient covering in which there is no excess of connective tissue, and when that regenerates you have got a scar. Now, when you apply acetic acid to the epithelial crusts, what does it do? It burns them all up. They absorb it and drink it and drink it until the crusts become so thick that they exfoliate and cast off the surface, and you get a healthy surface underneath.

It has been stated here that 95 per cent acetic acid would destroy germ life. No sort of germ can live in 95 per cent acetic acid. It is not because a thing is bad if diluted, but because it is carried to excess. An overdose of this or that agent may be given or taken. We take whisky bcause it is good, and the dose of whisky varies anywhere from an ounce down or up, according to the size of the man. (Laughter.) If I took a quart of whisky and drank it all at one time, the chances are that the undertaker would interview me shortly, and yet we do not condemn whisky except as a beverage. Morphia is one of the best things in the whole category of medicine, and yet we do not give ten grains hypodermically in one dose. Again, cocain is one of the best remedies ever discovered, yet one of the dangerous agents, and is well presented in our materia medicas. We know that a single dose of cocain has carried men to the grave, and yet we use it every day. All these remedies must be used with care and wth great caution. Like many other drugs, it must be used with care and not abused. If you never prescribe it, you never have trouble. I make these remarks for the reason that I have observed some of these epitheliomatous conditions about the face and lids. I have diagnosed these cases clinically as epithelioma and they have been diagnosed microscopically and proved to be what I thought they were. Some of the patients have refused treatment on the ground that they did not think they had epithelioma of the lids.

If we were listening to a man presenting something on which we had any serious doubt as to his veracity, his medical integrity, his professional honesty or his ethical attitude, it might be another thing, but Dr. Savage has presented here a paper, has reported cases, and wants you to try the treatment he has described. It is therefore up to the profession to determine whether his report is true or not.

Many people will not submit to the removal of tissue for purposes of microscopic examination. That is a foregone conclusion until the point is reached where such examination avails nothing. It is worth while to try this method of treatment, and if we find it is not the thing, then do not use it.

I am not myself in a position to say that these were or were not cases of epithelioma; but knowing Dr. Savage, having seen a number of cases with him, and knowing the number that were epithelioma and proven to be such, and were treated and treated and treated and did not get well, those who read this report should profit by it and establish the fact that what Dr. Savage has said is true or demonstrate to the profession there is nothing in this treatment. Until that day and time the matter is still sub judice.

DR. G. T. ABERNATHY, Paris: I was in Vanderbilt University in 1886. I think the lady to whom Dr. Savage referred came from Gallatin, Tenn. She came to Dr. Madden to have a diagnosis made of her trouble. There was a series of lectures being given at that time on faith cure by Drs. Callender, Atchison, Nichols and Maddin. I believe this was just before Dr. Savage came in to fill a chair there. When this woman came to Dr. Maddin's office she was heavily veiled, and after she removed the veil she said to him: "Doctor, I want you to name my disease; I understand that you are good at diagnosis; I don't want you to treat me. There is a faith doctor in my neighborhood who can cure me if he knew the name of the disease. That is all he wants to know." When her veil was lifted, Dr. Maddin said: "Madam, you have lupus exedans." The woman replied: "I knew it was something queer. Now, I will be cured." She left the office, and Dr. Maddin said: "This poor, deluded creature will soon be dead." In a few years the same woman came back to his office. Dr. Maddin said: "I am so glad to see you. I am glad to meet the ladies, but," he said, "I don't believe I ever met you before." She said: "Surely, you have. Don't you remember you named my disease a good many years ago, and I went to a faith doctor and he cured me?"

DR. G. C. SAVAGE, Nashville (closing): Dr. Abernathy wnt further back into ancient history than I referred to in my paper. As I understand, Dr. Maddin went to see a case in the country and prescribed for her, and the other patient came to him to get him to name her disease.

Now, I want to refer to the discusison of Dr. Caldwell. The cases I have reported belong to the same class of cases precisely as I have been sending to the x-ray and radium men ever since these agents came into use. The use of these agents has been attended with satisfactory results. None of these men ever failed to agree with my diagnosis. The cases I have treated were undoubtedly instances of true epithelioma. I think I know epithelioma when I see it.

I recite the case of a man who had four epitheliomas on his face. He also has an armless left sleeve. Why? Because, many years ago, he had an epithelioma on his wrist and hand, and that epithelioma, in spite of everything that was done for it, became so threatening to his life that a surgeon advised him to have the arm taken off, which was done, and that is why he has an armless sleeve. For ten years he had had these face epitheliomas, which I have treated with satisfactory results with acetic acid. The patient is also pleased with the results.

I have no objection at all to a pathologist examining or making investigation of all the cases to be treated thus. Most of my reported cases were charity cases, or cases whom I would not charge. I could not have asked for service of the pathologist. I am sure, however, that every one of them was a case of epithelioma. I am quite sure they were cured, or will be cured by the method I have described to you. Let the pathologist plea apply not only to my treatment, but to all other treatments as well.

With reference to the remarks of my friend, Dr. Jelks, he will remember that I said a six per cent solution of acetic acid would inhibit all germs or would probably kill many. If you apply 99½ per cent acetic acid to these ulcerations of the gut, then the amebic germ might not live. You might have tried 36 per cent solution successfully. But is not the ameba animal life, and not vegetable life?

DR. JELKS: I do not remember the strength of the solution which Dr. Arthur Porter advised.

DR. SAVAGE (continuing): Coming to the six per cent solution again to inhibit germ life; if the application of that solution will inhibit germ life, the application of it again tomorrow will inhibit germ life still more, and so on, and after a while the inhibition goes on to the destruction of germ life. Who knows but that epithelioma is due to germ life? It may be a condition of faulty metabolism, and not of germ life. I am anxious that the germ life, if it exists, shall be discovered. But the twofold advantage of acetic acid is that it will not only inhibit, but it will destroy germ life. There is no vegetable germ that could live in applications of acetic acid from 10 to 99½ per cent strength, even though it is a germ that may not yet have been seen by the microscope.

The other acids will destroy living cells as well as germ cells. If we destroy living cells and leave undestroyed a single germ cell, the disease will light up again. You want to destroy germ life, and at the same time stimulate cell life to fight subsequent invasion of germ life, or continue the battle against the germs that may not have been destroyed by the acetic acid application. A solution of 99½ per cent acetic acid is said to be a cauterant. Too freely applied, it might burn things up. If you apply it delicately and repeat the application, if necessary, as outlined in the paper, not a single live cell around the sore will be destroyed by a 99½ per cent solution of acetic acid.

The purpose of bringing this subject before you was to induce you to investigate it and try this remedy. I know there is much in it. I think that it is the best work of my life, as far as life-saving is concerned, and so far as comfort and happiness are concerned. I simply make a preliminary report, as I did at the Nashville Academy of Medicine. What I have said in the paper will stand the "measure" test, the "weighing" test, and the "acid" test. It will come out strong and true in the investigation of any man who enters upon the investigation with a clear, unprejudiced mind, determined to do justice to the facts I have given you today. I predict that millions of people, in the centuries to come, will be relieved of these conditions by their family physicians at home, for what is true now will be forever true.

Epithelioma is curable. I did not criticize a single method of treatment of epithelioma. Did you notice that? I have presented fairly and squarely the statements of another man concerning methods of treatment that are available, without a single word of comment on my part. As I read his report, I wondered if he had had cases that did not yield to the primary application of the method of dessication. I am going to find out whether he had cases that would not yield. Of those that did heal after one treatment, only three per cent returned within a year. I dealt fairly with all other methods of treatment, such as the x-ray and radium. Whether epithelioma is due to germ life or to faulty metabolism, we certainly have in acetic acid a power that, up to a year ago, was unknown by mortal man, so far as I have been able to investigate.

If somebody else should receive the credit for having first advised acetic acid in the treatment of epithelioma, I will clap my hands and shout praise for his daring in doing.

THE PHYSICIAN'S DUTY AND HIS RESPONSIBILITY TO THE GOVERNMENT IN THIS CRISIS.*

By Frank D. Smythe, Major M. O., R. C.,
Memphis.

Dr. Barron Larrey, who was Chief Surgeon of the Army of Napoleon, perhaps the greatest military captain that the world has ever seen, replied to the order of his commander that he administer a pill of opium containing a fatal dose to his soldiers, who were helpless and hopelessly afflicted with the plague, in order that they might die in ease and peace a few hours earlier than would be the case if left unattended, and at the same time escape the barbarous treatment to which he knew they would subjected by the merciless Turks who were in swift pursuit: "My profession is to cure, not to kill."

The object of our efforts today is the same, but owing to the advance made by the medical profession in the prevention of disease and in the treatment of disease and injuries, the doctor is of immensely greater value to the army and to the public than he was when the great Larrey replied to the mighty conqueror's suggestion that he violate the confidence reposed in his calling on that eventful occasion. Such a reply might have been expected of the great surgeon, though it was but one of the many acts performed by him that prompted the world's greatest soldier to say: "Larrey is the greatest man and the best man that I have ever known."

A similar reply to a similar command would be made by any worthy physician today. The responsibility of the army surgeon at present is stupendous in nature and magnitude, requiring the highest order of efficiency, both physical and mental, plus a patriotic desire to discharge his full duty to his government and to the sick and wounded soldiers.

First Aid; The importance of first aid to the injured cannot be overestimated, and it should be afforded the soldier immediately or as soon as possible for the purpose of arresting hemorrhage, allaying pain, combatting shock and diminishing the risk of pyogenic infection, tetanus and gas bacillus infection. Every preparation possible has been made by our government for swiftly executing the plan deemed best in the interest of the disabled soldiers. To do this safely, swiftly and successfully a larger number of physicians are required than was necessary to complete the medical personnel of an army in the past.

The physician administering first aid in the trenches and at the dressing stations and on the line of communication is subject to considerable risk from the shells of the enemy. Quite a number of our confreres have fallen on the fields of battle in the discharge of their duties. The physician has never hesitated to go forward in the discharge of his patriotic and professional duty; may I ask, And why should he? There is no reason why he should hesitate to assume a risk which is, to say the least, somewhat less than the risk assumed by the soldier boy in the trenches, who bares his breast to the bullets of the enemy with the hope that those behind the lines may retain freedom, liberty, happiness and prosperity such as all human beings are entitled to enjoy.

Medical Reserve Officers Are Essential; The major portion of the work of the medical department of our army since the declaration of war with Germany, especially the treatment of the sick and the operations on the wounded, has been done by the volunteer medical officer, and upon the volunteer the government must depend largely in the immediate future. Ninety-three per cent of the medical officers of the army today are medical reserve officers. Many physicians have offered their services to the government; many more physicians are needed by the government. The physicians will not much longer delay in responding to their country's call in this, her hour of peril. At least this is my fond hope and firm belief.

---

*Read by request before the Chattanooga Academy of Medicine.

Physicians of the soldier age have volunteered for service in large numbers and are rendering a splendid account of themselves as a result of their ability, courage and devotion to duty, both in this country and overseas with the American and Allied armies. The physician of soldier age applying for a commission to escape service in the army as a private soldier is a reflection upon the profession, a disgrace to his ancestors and a liability to the nation. I regret that it is possible for such a man, if there be such a man, to obtain a commission as a medical officer in the United States army. The speaker is of the opinion that an American soldier or an Allied soldier who offers his life in defense of his country should, in the event of disaster, receive the professional services of the most competent physicians available, and from a physician who stands ever ready to discharge his duty from patriotic motives and his love of rendering service to those who are unable to serve themselves. By a figure of transition, place yourself in the soldier's position, and you will, if I mistake not, appreciate the advantage of treatment of the patriotic and true physician. Compare the situation of the soldier being administered to by the doctor who is serving from necessity or by order of his commanding officer, and not because of the love he has for his labor, he having chosen, if you please, the lesser of the two evils—namely, a commission as an officer or a position in the trenches.

Majority of Physicians Should Come From the Cities: First, physicians are not so numerous in the rural districts as they are in large towns and cities, and the civil population in such districts would suffer if the few physicians they have were to enter the service. Such a situation is to be carefully guarded against. Second, physicians from the large cities and medical centers are the types of physicians needed now. They have had, as a rule, more thorough training in surgery than their brother doctors in the country. The country doctor, with few exceptions, is not a well-trained surgeon. His practice is of an entirely different nature. He is not a finished surgeon any more than a musician is an accomplished performer who never practices with the bow or upon the keys. Argument upon that point is unnecessary to an association of Chattanooga physicians. May I ask, has Chattanooga furnished her quota of surgeons in this crisis? Ask yourselves the question; answer it honestly and frankly, after due consideration, and then discharge your duty in keeping with the real facts and according to your country's need. This war is a war of every patriotic American citizen, and I know of no one who can afford to absent himself from the front as a matter of choice.

Number of Physicians in the United States; There are today in this country about 140,000 physicians, not over 50 per cent of whom are suitable material for effective service in the army. Some are disqualified because of lack of professional skill—they are not surgeons; many are physically disqualified; and there is a large class who are otherwise qualified that have no apitude for military service.

Should it become necessary to raise an army of five million men to win this war, the five million men will be raised, and if we judge the future by what has happened in the recent past and what is happening at this moment on the western front, one will not have to stretch his imagination far in order to fully realize the herculean task which the United States has to perform.

An army of five million men would demand the services of not less than forty thousand doctors, probably fifty thousand. Fifty thousand doctors would take over 50 per cent of the qualified physicians of this country to supply the needs of the army. Every physician between the ages of 22 and 55, professionally and physically fit, is acceptable for service, and every qualified physician should apply now for a commission in the Medical Reserve Corps, thus placing himself and his services at the disposal of the government wherever needed and whenever called.

The Surgeon-General of the United States army, General Gorgas, is one of America's greatest physicians, and perhaps the greatest sanitarian in the world. It was he who made the building of the Panama Canal possible, and that is only one of the many steps he has taken along the untrodden path of progress in his desire to serve humanity. He enjoys the confidence of the profession and laity second to no physician in this country. He is a great power for good, and it is fortunate that he is at the head of the Medical Department of the army today. His services are of an immense value to the army, and but little, if any, less to the nation and to civilization.

Physicians Who Should Serve; General Gorgas is of the opinion that every qualified physician in the United States should hold a commission in the Medical Reserve Corps of the United States army.

Excuses for Not Being in the Service: I hear, and you hear, physicians say almost daily that they are anxious to offer their services, but that they cannot afford to leave home. They have a wife and children and other dependents to support and protect, and that if they entered the service they would not only lose their practice, but they would lose their homes. As a matter of fact, they would lose neither. They would simply not make any money while in the service, but, since a moratorium has been declared, the would find upon their return from the front no change of status so far as their home is concerned. The mere fact that a man has a wife and children to support is not a sufficient excuse to justify him in expecting his brother doctor, who also has a wife and children to support, to shoulder his responsibility or bear his burdens as a citizen of this glorious republic. I am constrained to believe that there are physicians who are taking advantage of the present opportunity to reap a financial harvest out of their profession; physicians, some who are qualified, some mediocre. They shall have their reward, though I do not believe that their children or children's children will feel very proud of their heritage. Many physicians tell their brother doctors and the inquiring and interested public that they are ready to respond to a call when the call comes, notwithstanding the fact that every regular physician whose name in the Medical Directory appears has received not only one card, but several cards, from the Surgeon-General's office or from the Council of National Defense, requesting answer to the questionnaires and a return of the card in order that such physician may be classified as to his qualifications. In fact, there has been a standing advertisement all over this country urging physicians to apply for a commission since the declaration of war against Germany, and in addition to the standing advertisement, itinerant commissions have been dispatched throughout different states, personally interviewing the physicians and urging them to make application for commissions, thereby placing themselves on record as to their willingness and availability for service.

Need for Physicians: Physicians are needed, not only for our own army, but for our allies. Our allies' medical officers supply is far too low a percentage. Not only the armies, but the civilian population, is in a deplorable condition, due to the scarcity of physicians. In Palestine today there are three English regiments of soldiers on duty with only one medical officer attached. Think of such a situation, men, and keep your seats, if you can. As for myself, I could not sleep well if I were not wearing the colors. If you go to the front, there will be plenty of physicians beyond the soldier age and physicians who are otherwise disqualified for service to look after your practice safely and successfully during your absence. We flatter ourselves to the point of believing that our services are indispensable to our respective clienteles. It is true there would be the shedding of a few tears and some heartaches, both of which would, however, soon subside, and our most loyal patients would be found progressing nicely under the supervision of a medical confrere who was justified or compelled to remain at home and attend to the professional needs of the civilian population.

Change of Location; Quite a number of physicians have changed their locations to practice since the war started. Possibly you have some newcomers among you. If a physician can leave his people and seek a new home, he must realize and believe that his services to the community with whom he had cast his lot were not essential, otherwise, being a true physician, he would not have left them. Since his services are not necessary to his hitherto clientele, it seems to me that he, above all other men in the profession, is peculiarly obligated to offer his services to the government, and after the war shall have been over, he could, with propriety and with better taste, seek a new location.

Visit the Training Camps: Upon observation, it will be noted that there are three groups of medical men at the camps: (a) The physicians of soldier age—21 and 31; (b) Physicians between 31 and 45; (c) Physicians between 45 and 55. Group A is well represented numerically. Probably 40 per cent of the class will be found in that group. Group B requires the services of a good detective to round up enough men to count. I do not know the exact percentage; I should say from 10 to 20 per cent. Group C is top-heavy, and represented in large numbers. I would be pleased for the physicians between 31 and 45 years of age to explain just why they feel that they have no particular part to play in this war. My own opinion, perhaps, had better not be expressed. The physician of the soldier age has no alternative. He must serve. If he does not apply for a commission as a medical officer he will be qualified by his local board, placed in Class A and sent to the trenches. Their status is fixed by law. They cannot escape service if they would. The law directs that they shall serve, but permits them to serve as medical officers if they will, and prefers that they do so. It is estimated by our enemies that a medical man in the army is equal in value to his government to five hundred infantrymen.

Physicians over 31 years of age are not compelled to serve under existing law. They can only serve as volunteers. They are beyond the reach of the arms of the government, and it matters not how urgent the need for their services, they must volunteer.

How to Qualify: In order to be assigned to service it is essential that the physician hold a commission as an officer of the Reserve Corps. The commission accepted, the oath of office taken before a notary public and returned to the Adjutant-General at Washington is the only way, and is conclusive and convincing evidence as to how a given physician stands on the question of his willingness to serve. In the absence of a commission, the physician stands exactly where the United States government stood the day war was declared—namely, shamefully unprepared.

A physician's willingness to serve should be evidenced by holding a commission from the government. Otherwise, he is of no benefit to his government in this emergency. He is not qualified for service and cannot qualify or serve without applying for a commission, receiving and accepting the same. The commission signifies only his willingness, availability and readiness to serve when needed. The absence of a commission to a man over 31 is evidence that he has at least not hitherto wanted to serve bad enough to qualify for service. He cannot be drafted into service, but he can volunteer his services.

Let it not be said, brethren, that the great struggle, now being waged for liberty and all the things we love, even life itself, was prolonged or a human life needlessly sacrificed because of lack of active interest or lethargy on our part.

*To Serve Our Country Is a Privilege*s A privilege of which we, beyond the soldier age should feel especially proud. As a result of experience in the science and art of surgery and medicine we can perform a service of greater value to our country than the physician of the soldier age, and should we be called upon to sacrifice comforts, pleasures and business hitherto enjoyed, we should not pause, but promptly avail ourselves of the privilege of discharging our duty to the best of our ability. This war will be won by ourselves and our Allies if it requires all the wealth and all the men of the Allied nations to accomplish the task, and as it must be done, let it be done quickly, and in order to do it quickly, every mother's son must fill a place.

My hope and prayer is that when the history of the part played by the Medical Department in this great war shall have been written, that the history of the Medical Department will prove the most luminous of the many bright pages recorded, reflecting glory upon our profession, upon all its members and upon our country, which we love so well.

"Vive la France, l'Angleterre, et les Etats Unis!"

Our men in the trenches and in the submarine chasers are doing their part. Are you doing your part? Buy War Savings Stamps to your utmost capacity.

INDURATION OF THE CORPORA CAVERNOSA.

FIBROUS CAVERNOSITIS.

By PERRY BROMBERG, M. D., F. A. C. S.
Nashville.

It will be remembered that the two corpora cavernosa, lying side by side, are enveloped by a sheath of fibrous tissue which encloses the dorsal arteries and vein of the penis. This enveloping sheath is common to both corpora and, according to Sappey, plays an important part physiologically in maintaining an erection, by compressing the venous return.

This tunic blends to some extent in the median line to form the pectiniforme septum, being perforated, particularly in the anterior portion, to allow continuity between the cavernous spaces of each of the corpora. From the interior of the fibrous sheath, as well as from the septum, numerous lamellae, composed of fibrous muscular and connective tissue of the elastic type, subdivide the structure of the cavernous bodies into numerous spaces or interstices, these spaces being larger towards the center, where the bands are thin and smaller toward the periphery, where the bands are thick and well formed. The spaces so formed are lined by endothelial cells and are, in reality, nothing more than dilated venous spaces, the form and shape of which are controlled by the trabecular bands from the sheath.

Erection is brought about and maintained through impulses conveyed from the sexual center in the cord through the *nervi erigentes*.

The different impulses which reach the penis cause a relaxation of the muscular and elastic structures composing the trabeculae, thus enlarging the spaces already mentioned. There is also a relaxation and dilatation of the arterial blood supply. The single vein, accompanied by two arteries, is unable to return the extra amount of blood, especially since it is compressed by the erector penis and bulbocavernosus muscles, together with the fibrous sheath above referred to.

It is for the purpose of considering this form of obstruction to physiological erection that I have seen fit to briefly review the anatomy of the corpora and their sheath. We have seen that two conditions are essential: First, a relaxation of the blood vessels and the spaces to contain the blood; and, secondly, an efficient obstruction to the outflow through the venous channel. It is exceedingly simple to understand how any condition, which would modify either of these two fundamental requirements, would either prevent an erection or produce varying degrees of modification from the normal.

We are concerned in this paper only with changes in the fibrous sheath surrounding the corpora, the septum pectiniforme and the trabecular bands dividing the interspaces of the corpora. So far as we have been able to determine, there has been no interference with the blood supply, no diminution of desire, no inability to have or to maintain an erection in any of our cases; the sole complaint has been an inability to have satisfactory intercourse, due to curvation of the penis. This curvation, we are satisfied, has always been due to changes in the sheath, or in the trabecular bands, or both, and is purely a mechanical interference, due to the development of fibrous plaques within the sheath.

Dr. Arthur P. Luff of London, in his Harveian lecture, discusses fibrositis, and says: "The essential pathological change in fibrositis is an inflammatory hyperplasia of the white fibrous tissue in various parts of the body, associated with exudation and proliferation of the connective tissue elements leading to swelling and thickening of the affected fibrous tissues. This condition may undergo absorption and so completely disappear or, of not suitably treated, it may pass on to organization with the formation of nodules and patches of thickening."

He further states that the parts implicated are usually the fibrous tissue of joints, muscles and bones, especially the aponeuroses and insertions of the muscles, the muscle sheaths, the bursae, fascia, the fibrous ligaments and capsules of the joints, and the periosteum. This inflammatory hyperplasia of the fibrous tissue occurs in patches, and is started by exposure to wet or cold, by injury, or by some irritant, microbic or toxic, conveyed in the blood. This article was written in 1913, before the day when Billings and Rosenow proved them due always to infection. I am of the opinion that the fibrous plaques found in the sheath surrounding or separating the corpora are, in every particular, identical with the plaques or patches described by Luff as affecting the fibrous tissues of other parts of the body, and I agree with Ware (American Journal of Medical Sciences, July, 1901) that they are microbic in origin.

I am not prepared to say that the primary infection is always gonococcal, but, in my cases, the history of gonorrhea has been present in all. It is further a peculiarly disturbing factor to note that sugar was present in the urine of five of the eight cases which I have seen. M. zur Verth and K. Scheele in the Deutsche Zeitschrift, Leipsic, February, 1913, tabulate three personal cases and ninety-seven from the literature. The possible causative factors mentioned are: Gout (13), diabetes (12), inflammation of the joints (15), syphilis (13), trauma (6), arterio-sclerosis (15), gonorrhea (21). We can readily infer from the above that infection must play an important part, if it is not the sole cause.

Lydston, Medical Fortnightly, St. Louis, May 11, 1908, reports a case, and says that the etiological factors are rheumatism, syphilis, alcohol, gout. "Whatever the primary etiological factor may be, the penile process is merely the local expression of general arterial disease." With this I, of course, cannot agree, for arterial changes so often found in old men would not be so rarely accompanied by the development of fibrous plaques in the corpora or elsewhere in the body. I am strongly inclined to believe that they are but the result of a previous acute inflammation, perhaps long since forgotten. We are all familiar with the type of acute gonorrheal inflammation, which extends to the corpora, producing an effusion which affects the dilatability of these cavities, thereby influencing an erection. The type with chordee, which is not always due to the difference in extensibility between the inflamed urethra and spongiosum and the uninvolved cavernosa, but may also be due to the interference above referred to in the cavernosa.

Very mild grades of acute cavernositis frequently escape the attention of the physician, but when deposits in the substance of the corpora cavernosa occur, with their attendant inferference with normal erection, the patient and often his physician mistakenly speak of it as chordee. It is in these deposits that the fibrous tissue forms, which, in later life, we recognize as plaques. Guiteras says, "They usually develop in middle-aged men who have suffered from attacks of urethritis." It is exceedingly difficult to determine the effect of the accompanying constitutional disease. The presence of general infections as rheumatism and syphilis, the frequent occurrence of gout and diabetes no doubt play some part in the process. It is also well to remember that long-forgotten injuries, especially occurring with a gonorrhea, when it was not unusual to hear of a patient "breaking his chordee" may have a very definite bearing on the causation.

Sacher gives the frequency of different causes in 187 collected cases as follows: Diabetes and gout, 23.5 per cent; syphilis, 11 per cent; gonorrhea, 9 per cent; traumatism, 8.2 per cent, and rheumatism 2.1 per cent.

Location—It will be observed that in the twenty cases reported by Thompson Walker of London the plaques may be distributed at various points throughout the corpora cavernosa or spongiosum. This is rather an unusual observation, for the majority of writers upon this subject have found them confined largely to the dorsum of the penis in the sheath. My observation, covering eight cases, has been that they were exclusively in this locality, which seems always to have been the particular one to produce upward curvation, which interferes with normal erection. This location has been the one in all of my cases, though they have materially differed in extent, thickness and depth, with which they extend into the fascia pectiniforme. It is also said that they vary much in size. My experience has been that the small plaque produces so little disturbance that they rarely consult a physician, and it is only when the plaque is sufficiently large to interfere with erection that they seek relief. It has not been my experience to see them in their early stage, but rather when they have attained the width of one-eighth to one-fourth of an inch, and the length of an inch or more, the patient usually calling your attention to it himself. I have not observed the deposit of calcareous matter in any of the four cases upon whom I have operated, though they may and sometimes do occur. Sacher found calorification by x-ray examination in three of his cases.

Symptoms.—The onset being insidious, the patient rarely consults his physician until interference with erection occurs. This interference may be complete and totally prevent a satisfactory erection, or only partial, the part proximal to the plaque becoming erect, whilst that distal to it remains flaccid. The usual symptom for which they come is a curvature during erection. This curve may be in any direction, depending upon the location of the plaque. It may produce pain on erection, but this is a rather unusual symptom. Delayed ejaculation and loss of sexual power are said to be symptoms, which may easily be explained when we consider the frequency of accompanying constitutional diseases, as diabetes and arteriosclerosis.

Prognosis.—The very slight tendency towards resolution should not be regarded with much hope, as the disease slowly extends and, in time, becomes stationary. I have under observation one case, who refused operation four years ago, who shows much less induration than formerly, and his curvation has improved sufficiently to permit an intercourse.

Treatment.—In this, as in other diseases, prevention should be our first consideration. Appropriate care of the gonorrhea, especially if periurethitis exists. Warning to all sufferers from gonorrhea that injury (such as breaking a chordee) should be avoided. Early recognition of existing constitutional diseases, which may be cured, as rheumatism and syphilis. Appropriate care of the arteriosclerotic and diabetic will no doubt do much towards prevention of the formation of plaques here or elsewhere in the body.

It is exceedingly unfortunate that no remedy which has been suggested so far may be relied upon to produce a cure. The iodides and arsenic internally, local application of iodine, mercury, camphor, iodoform, etc., have proven worthless. The faradic current, electrolysis, the Coolidge tube, and other forms of electricity have been used, but were unsuccessful. The injections subcutaneously of thiosinamin, iodolysin, and the salicylates, while occasionally giving a brilliant result, have, on the whole, proved disappointing. The majority of writers claim little or nothing for excision, but I am strongly inclined to believe that resection is the best method of treatment. My experience is exceedingly limited, having done the operation on three personal cases and with Dr. A. L. Sharber on a fourth, in all of whom most excellent results were obtained. In this operation no effort to remove the entire plaque was undertaken, but rather a resection of the fibrous band was done. It is a simple procedure, done satisfactorily under local anesthesia, and should be advised where the induration does not extend too deeply into the septum.

In those cases refusing, I should not hesitate to advise the treatment suggested by Dr. Luff, who claims much for the absorbing effect of iodine upon fibrous tissue.

"The iodine is introduced into the part from a 2 per cent solution of lithium iodide, to which sufficient iodine has been added to give the fluid a sherry color. Pads of lint six-fold thick are soaked in the hot solution and applied to the part. A copper chain-mail electrode is then spread over the pad and bandaged on and attached to the negative pole. The positive pole is similarly connected to another pad, soaked in a weak solution of common salt. The strength of the current, which should be employed, should range from fifteen to forty milliamperes. The ionization lasts for twenty minutes, and should be repeated daily if the skin permits; otherwise, it should be used on alternate days." He claims rapid improvement for the first, but, in obstinate cases, daily application for four weeks may be required. In connection with this, he strongly urges the use of iodine internally during the treatment.

OUR WAR INTENTIONS.

"We intend what our forefathers, the founders of this Republic, intended. We in America believe our participation in this war to be the fruitage of what they planted. Our case differs from theirs only in this, that it is our inestimable privilege to concert with men out of every nation what shall make not only the liberties of America secure, but the liberties of every other people as well. . . .

"There can be but one issue. The settlement must be final. There can be no compromise. No halfway decision would be tolerable. No halfway decision is conceivable. . . .

"The blinded rulers of Prussia have roused forces they knew little of—forces which can never be crushed to earth again; for they have in their heart an inspiration and a purpose which are deathless and of the very stuff of triumph."—*From the President's Mount Vernon Address.*

REHABILITATION OF OUR SOLDIERS.

The United States Government is not going to be content with merely re-educating and rehabilitating its soldiers who have been disabled by wounds, and fitting them for useful and gainful occupations; it is not going to leave them to shift for themselves, but will exert an active continuing interest in their welfare.

This does not mean that the Government is to coddle them or treat them as weaklings, but it is going to take an active interest in securing them work and in other ways endeavor to make up to them the opportunities and advantages they lost by reason of wounds received in fighting their country's battles.

Every Liberty Loan Bond and every War Savings Stamp purchased aids in this work.

ENTENTE AND TEUTONIC RESOURCES.

The Entente Allies—excluding Russia and including only those British dominions which are self-governing and only the United States proper—have 11,000,000 square miles of territory, 303,000,000 people, and $495,000,000,000 of national wealth.

The Central Powers have 1,250,000 square miles of territory, 147,000,000 people, and $134,000,000,000 of national wealth.

The entente owe an aggregate debt of $69,000,000,000, which is about 14 per cent of their total assets. The Central Powers owe $37,000,000,000, or 28 per cent of their national wealth.

UNITED STATES REVENUES.

The internal revenue collections for the fiscal year ending June 30 last totaled $3,672,000,000. The collections for the preceding year were $800,000,000. This year's collections exceed by nearly $200,000,000 the estimates made when the war revenue measures were passed by Congress last year.

Four thousand persons were employed in the work and the total cost of the collection was only $12,000,000. The patriotism roused by the war contributed largely to the success of the work, and the taxpayers assisted and cooperated with the Government.

A determined effort will be made to bring to book tax evaders in every part of the country. The Treasury already has evidence against a large number who have sought to evade taxes, and by checking up contracts and with other data the Government expects finally to discover and punish many tax evaders, as well as recover large amounts of revenue illegally withheld.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

JULY, 1918

EDITORIALS

THE COMMITTEE ON NATIONAL DEFENSE—MEDICAL SECTION.

The committee of the Medical Section of the Council of National Defense, which has served in Tennessee and is still serving and which is going to continue to serve—we can speak for a part of it, at least—was appointed from Washington without its members having been consulted. It has done what it has been directed to do as well as it could do it. It has done its duty as it has been given its duty to do. And it means to keep on doing that thing. The committee has done a lot of work and a few of its members have spent a lot of money out of their own pockets in doing that work.

The most important duty assigned to the committee by Washington has been that connected with securing Tennessee's established quota of men for the Medical Reserve Corps. An honest, earnest and persistent effort has been made in this matter, and up to the time of the last call of the Surgeon-General reasonable success had attended the effort. Since the last call, Tennessee doctors have been rather slow in making application for commissions in the Medical Reserve Corps. The committee has been urged to do whatever it could do to hasten enlistments, and to this end has made known to the physicians of the state—through the public prints, through The Journal, and by means of official letters—the demand for medical officers and the general needs of the medical service of the army. The committee has acted in this matter as the appointed agent of the government of the United States, and has not assumed to itself any personal authority or claim of authority. It has not meant to accuse nor to abuse any individual on earth, nor to settle for any man any question which should be settled by that man and his own conscience.

A letter which has recently gone out from the committee has aroused the ire of some of those who have received it, and has called down upon the heads of the officers of the committee who signed the letter curses and howls and anathema—whatever that is. As one of the signers of that letter, the writer, editor of this Journal, secretary of this Association, and member of the committee by virtue of his unsought and unwished-for appointment by a higher power, and as one who would right now be in the very middle of France if he could get into the medical service of the army, wishes to disclaim, for the committee and for himself, any intention of dictating to any man as to what that man's duty to himself, his profession, his country and his God is. And, at the same time, we want to say that the Surgeon-General of the United States army and the army itself, and the nation, are calling for two hundred and forty-six medical men for enlistment in the Medical Reserve Corps from Tennessee. If they are not had, it is not going to be because the Tennessee State Committee of the Medical Section of the Council of National Defense has not tried to get them. That's all.

REPORTS OF COMMUNICABLE DISEASE.

The State Board of Health has sent a letter to every physician in Tennessee whose address could be secured asking for more effective co-operation in collecting morbidity statistics. It is to be hoped that the doctors of the state will heed the appeal contained in this letter, for the collection of these statistics is, especially at this time, a matter of very considerable importance from several standpoints.

In the first place, the State Board of Health and county boards of health are charged, under the law, with the duty of collecting these statistics. In the second place, physicians are charged, under the law, with the duty of reporting all cases of communicable disease which may occur in their practice to county and city health officers, according as they occur in an incorporated city or in the county outside of incorporations. The health officers—most of them, at any rate—want to do their duty; the doctors should do their duty as laid down by the law of the state. They most certainly have not been doing it, for there has been in many counties an absolute disregard of the law requiring physicians to report communicable disease. It is important that organized health departments should carry out the tasks imposed upon them by the law; it is likewise important for a profession which makes the claims which are made by the medical profession to deliver the goods by strictly observing the law. When we claim so much and deliver so little, even in some small particular, it works to the detriment of the profession, for our claims become empty and tinkling.

The surgeons-general of the army and of the U. S. P. H. Service are appealing to health officers in every state to keep them posted as to outbreaks of communicable disease and to inform the commanding officers of camps of the possibilities of danger in every community to the enlisted and drafted men. The man who does not help in all he can in this matter of the protection of our troops, be he doctor or something else, falls short of his duty to his country.

The collection of morbidity statistics is important in that it gives the State Board of Health information through which, many times, measures can be instituted for the protection of the health of the people of our own state and of other states.

These statistics, if properly collected and properly compiled and properly used, can be made a source of valuable information for the medical profession.

The letters which pour into the State Board of Health from county health officers are remarkable for their similarity of statement: "The doctors of the county will not report." "I have mailed cards to our doctors each month, but none of them come back." It is not hard, it does not take much time, it costs extremely little when it costs anything at all, for a doctor to report communicable disease in his practice to his city or county health officer, but the benefits which may be had from such reports are very considerable.

The time has come when every physician should wake up to the fact that he, in a peculiar sense, has a duty to perform in connection with public health protection—a duty which none but he can perform, and a duty which is part and parcel of the very being a physician. It is a remarkable thing that the very best and very busiest doctor in every community is, in nearly every instance, that one who makes promptest reports to his county health officer, his registrars of vital statistics, and to every other agency which is charged with the duty of collecting reports from physicians. Why does he recognize the right of the state to ask of him certain things for which he is not handsomely remunerated? Why does he co-operate in every worthy movement for the benefit of his community and his county and his state and his country? It is because he is the best—that's the answer—and his doing of these things has helped to make him the best.

We appeal to the members of the Tennessee State Medical Association to heed the appeals of the State Board of Health for their co-operation in building up an efficient public health service in Tennessee.

TENNESSEE IN THE M. R. C.

There are forty-eight states in this Union of ours, and a forty-ninth unit is the District of Columbia. Of the forty-nine units there are just ten which have not sent a larger percentage of their physicians into the Medical Reserve Corps than has Tennessee. Our state stands as No. 39 in the order of enlistments, with 530 physicians recommended for commissions up to July 1, 1918. These 530 are just 15:2 per cent of the total number of Tennessee's physicians.

The "Volunteer State" just ten steps ahead of the rearmost rear! What are you going to do about it? Only two states, Araknsas and Alabama, of all the Southern States are behind Tennessee! What are you going to do about it?

Your common sense will tell you that you cannot buy now all the things you bought before we had a war to win. Your buying must be restricted and your savings invested in War Savings Stamps.

INFORMATION ON THE VOLUNTEER MEDICAL SERVICE CORPS.

1. *How should I apply for membership?*

Write to the Medical Section, Council of National Defense, and application blanks and circulars of information will be sent. When received, fill out the application form in full, being guided by instructions contained in the Rules of Organization and the circulars of information.

2. *What shall I do with application form when completed?*

Forward to the Medical Section, Council of National Defense, Washington, D. C.

3. *What is to be gained by the creation of this organization?*

A classification as to the availability of all physicians not eligible for military service.

4. *What is meant by classification?*

Our record of information furnished by the physician himself, so that if the future demands, each one could be used to the best advantage.

5. *What is meant by availability for service?*

Information of record so as to determine where, when and how physicians can be requested to render service.

6. *Who are eligible?*

All physicians who would be accepted by the Medical Reserve Corps were it not for physical disability, over-age (55), essential public need (boards of health and the medical care of isolated communities), essential institutional need (medical schools and hospitals), or dependents. Women physicians are eligible.

7. *How will eligibility to this Corps be determined?*

Information obtained from application blanks, three personal references, and the Executive Committee in your State will be considered by the Central Governing Board, which shall determine final action.

8. *How do I become a member of this Corps?*

By vote of the Central Governing Board.

9. *How will physical disability be determined?*

If you have applied for a commission in the Medical Reserve Corps and are rejected because of physical disability that information will be of record. If a physical disability is obvious, a statement by the Executive Committee to that effect is all that is necessary; otherwise, apply for commission in the Reserve Corps, and if rejected physically, that rejection will be of record in this office.

10. *Does membership in the Corps carry with it rank and pay?*

This Corps is not authorized to give rank. Arrangements shall be made between a member and the agency *requesting* service. The question of compensation and place of service, whether with or without rank, must be determined at that time.

11. *Can any member of this Corps be ordered to active duty?*

No member will be *ordered* to render any service. Requests to accept service according to qualifications and availability will be made, such service to interfere as little as possible with already existing duties.

12. *What will be the probable character of this service?*

Question 22 of the application blank is as follows:

"Are you available for any of the following services?

(*a*) *Consultant*—Medical Service, Surgical Service, Public Health Service, Special Service—What?

(*b*) *Institutional*—Laboratory, Administrative, Medical Service, Surgical Service, Special Service—What?

(*c*) Local or Medical Advisory Boards.

(*d*) Reclamation of registrants rejected for physical unfitness.

(*e*) Services to needy families and dependents of enlisted men.

(*f*) Sanitation.

(*g*) Miscellaneous Service."

13. *Can I be admitted to the Medical Reserve Corps if I become eligible after election in the Volunteer Medical Service Corps?*

Yes; but notify the Central Governing Board that you have accepted a commission in the Medical Reserve Corps.

14. *How is essential, public or institutional need determined?*

By the Central Governing Board, which will be guided by information obtained from application blanks, personal references, Executive Committee of the State, Surgeon-General's office, and officials of colleges, hospitals, boards of health and community.

15. *How is eligibility of physicians because of dependents determined?*

By the Central Governing Board, being guided by information secured.

16. *Do I receive insignia to show membership in this Corps?*

A small badge has been authorized by the Council of National Defense. This will be issued to each member of the Corps.

Application blanks can be had from The Journal office.

ARE WE GOING TO QUIT?

The reports keep coming in to the effect that our county medical societiies are losing ground in every particular. Meetings are not held regularly, members do not attend in numbers when meetings are held, interest is at a low ebb all the way 'round. This is contrary to the demands of the hour. Never before has it been so necessary for medical organization, wherever medical organization has been effected, to hold its ground. The men who have gone from our ranks to the ranks of the army are looking to those of us who are left at home to protect the every interest of the profession they represent on the battle lines in Europe and to protect the interests of our army and our people at home as it may be done through organized medicine. Are we going to "throw them down?" Are we going to acknowledge ourselves incompetent to do the job that is left us to do? Are we going to quit?

Get up and go to your medical society, enter into its deliberations and put your energy into the maintenance of the organization and into the furtherance of the plans and purposes which every medical society should have. If you are a "quitter," then quit! If you are not a "quitter," get into the game, and when our fellows come back home be one of those who can look right into their eyes and say to them, "I have been on the job with the 'stayers,' and have helped to 'keep the home fires burning' in our medical organization."

To hell with the Kaiser and the "quitter!" Let's keep things going!

MUST BACK THE GOVERNMENT WITH ALL OUR STRENGTH.

Few people, indeed, in this country now fail to realize that we are fighting a brutal, relentless enemy. The indictment against the Hun grows stronger every day. He is absolutely devoid of pity or chivalry. An American correspondent reports a conversation with a crippled British officer who, after a long stay in German prison pens, had been exchanged.

The officer told of men so feeble from lack of food and bad conditions as to be able scarcely to stand being forced to work at the point of a bayonet until they dropped from sheer weakness; of badly set gun-fractured arms and legs; of soldiers buried to the accompaniment of the jeers of German soldiers; of the long journeys of the badly wounded without relief of dressings, food, or water; of wounded prisoners marched to exhaustion and then shot down like dogs when they no longer could walk; of prisoners put into camps where typhus raged.

This is the kind of enemy we are fighting, and this is why all of us must get down and put every bit of our strength back of the Government. For one thing, we must buy only those things necessary to maintain ourselves in the most efficient condition. That will give the Government more labor and materials for war purposes. And then with our savings we must buy War Savings Stamps. That will give the Government current funds with which to use labor and materials in the successful prosecution of the war. We must do as President Wilson asks us to do in his message—pledge ourselves to save constantly and to buy regularly Government securities. We shall then be doing our part.

Buy War Savings Stamps to the utmost of your financial capacity, and then increase your capacity by saving more.

When you buy War Savings Stamps you do not give your money, you loan it at 4 per cent compounded quarterly. You help your Government, but you help yourself even more.

SOME FACTS ABOUT YEAST.

The subject of yeast is of importance because, first, as has been pointed out in an editorial article in the Journal of the American Medical Association (Jr. Am. M. Asso., 1916, lxiv, 1390). it possesses a distinct nutritive value, and because, secondly, it possesses therapeutic qualities. It is about some of the forms of yeast and their therapeutic properties that we wish to write. The matter of yeast treatment has recently received impetus as the result of the publication in the Jr. Am. M. Asso. (October 13, 1917) of an article by Dr. Philip B. Hawk and collaborators, which represents work done in the Laboratory of Physiological Chemistry of the Jefferson Medical College, and the Philadelphia General Hospital, both of Philadelphia, and the Roosevelt Hospital, New York.

Hawk and his colleagues obtained strikingly good results from the use of yeast in many pathological conditions, especially the purulent skin conditions such as acne and furunculosis and in constipation. That they did so is not at all surprising, for yeast has always acted well in these skin conditions, as is well known. Hawk mentions that yeast has been used in medicine since the days of Hippocrates (who used it in the treatment of leucorrhea); not, however, until the middle of the nineteenth century was its use looked on favorably by the medical profession. Since then its value has been attested by numerous observers, who have employed it in a variety of pathological conditions. Its value in certain skin conditions has been freely acknowledged by dermatologists—for instance, Schamberg has seen good results from its use in the treatment of ordinary furunculosis (Diseases of the Skin and the Eruptive Fevers, 1915), although it failed him in the furunculosis accompanying smallpox.

Hawk's researches are novel in that he employed as a therapeutic agent not the time-honored brewers' yeast, but the familiar Fleischmann's yeast of the bakeries and the household. This is the first time, it seems, that baker's yeast has been employed systematically as a therapeutic agent, although Louvel (Renes Med., 1905-6, fasc. 10, 16-19) seems to have used it in the treatment of sundry infectious diseases, and according to Cailliau (These de Paris, 1908) it was used in 1896 by De Baeker, who mixed it with equal parts by weight of white honey, and who, having used it thus in the treatment of furunculosis, considered that it was more active and better supported than ordinary yeast.

That brewers' yeast should have been used in the past is not at all surprising when we call to mind that, in all probability, in modern times, at least, it was extensively used and tested by the employees of breweries, who found it readily accessible. A special virtue seems to have attached to brewers' yeast, probably from this reason. For instance, the yeast specified by Schamberg (loc. cit) is fresh brewers' yeast, and the U. S. Pharmacopaeia of 1876 defines yeast (fermentum) as "a peculiar insoluble product of the fermentation of malt liquors." It was dropped from the Pharmacopaeia of 1880, and has since remained unofficial. The U. S. Dispensatory (Remington and Wood) of 1918 describes it as a "flocculent, frothy, somewhat viscid semi-fluid of a dirty yellowish color, a sour vinous odor and a bitter taste." Suffice it to say the appearance of brewers' yeast is not at all familiar to very many physicians, one reason being that it is not immediately available, except in some large cities. In country districts that are remote from breweries, the use of brewers' yeast is attended with serious difficultes.

Compressed yeast—the undried product—is readily obtained, and there is no reason why it should not be largely used.

The National Formulary, 1916, under the term, "Cerevisiae Fermentdm Compressum," recognizes compressed yeast and describes it as follows: "The moist, living cells of saccharomyses cerevisiate Meyen (Fam. Sacchyromycetaceae) or of other species of Saccharyomyces, combined with a starchy or absorbent base. White or yellowish-white, soft, and easily broken masses, having a characteristic slightly sour odor, and not more than a faintly acid reaction to litmus. When examined under the microscope, numerous oidium and mycoderma cells and starch grains are visible. Compressed yeast must not be used unless fresh, and free from mildew and musty odors." Sadtler (Industrial Organic Chemistry, 1900) has also given a good description of compressed yeast: "It should be only slightly moist, not sloppy, to the touch; the color should be a creamy white; when broken it should show a fine fracture; when placed upon the tongue it should melt readily in the mouth. It should have an odor of apples, not like that of cheese; neither should it have an acid taste or odor."

A certain disadvantage of fresh brewers' yeast in therapeutics has been mention— i. e., its non-availability. Certain other objections to its use readily come to mind, among them being the fact that as a rule it is decidedly non-uniform both as to composition and as to action. We would readily suspect this when we recollect that in the yeast of the breweries two well-marked varieties of saccharomyces have been recognized; a top yeast most active at 16 to 20 degrees C. and a bottom yeast most active at 6 to 8 degrees C. On the different behavior of these varieties, different methods of brewing have been founded. Lardier (These de Paris, 1901-02) calls attention to the fact that brewers' yeasts obtained from different breweries behave differently so far as therapeutic action is concerned; moreover, that the therapeutic action of yeasts obtained from different barrels in the same brewery varies. Also the yeast in the same barrel varies at different stages of fermentation. He states that the difference explains in part the varying therapeutic results of different observers.

Besides varying in proportions of the different species of sacchromyces they contain, brewers' yeasts are apt to be admixed with various wild yeasts that enter the liquid from the air.

There is a difference of opinion concerning the nature of the constituent of the yeast which gives it therapeutic value. Some investigators claim a direct bactericidal effect, others regard such effect as due to by-products of fermentation such as alcohol and various acids, still others regard the action as due to the chemotactic influence of the high nuclein content of the yeast. According to the Dispensatory, the experiments of Walzou and Sacharow have shown that yeast increased the opsonic index of dogs for staphylococci and streptococci. This may help to explain its favorable action in infectious conditions.

The Dispensatory mentions the fact that the ordinary yeast cake of American bakers may well be substituted for brewers' yeast. In view of Hawk's investigations, this statement may very well be true. Compressed yeast is generally to be preferred because of the fact that it is carefully standardized and a uniform product is always obtainable. Sadtler refers to the researches of Hansen—who early separated various species of yeasts used in the industries. Among these varieties of Saccharomyces, cerevisial and Saccaromyces Pastorimus were used in the brewing of beer; Saccharomyces ellipsoides in the manufacture of wine. Sadtler states that it is prepared as compressed yeast, in cakes, generally with the addition of potato-starch. The National Formulary does permit the presence of species of saccharomycetaceae other than Sacchyomyces cerevisiate Meyen. At all events, the composition of bakers' yeast can be controlled, and this yeast possesses the advantage of availability and uniformity.

CONVERSION OF LIBERTY BONDS.

Liberty bonds of the first and second issues and those obtained by converting bonds of the first issue into 4 per cent bonds can be converted into 4.25 per cent Liberty bonds during the six months' period beginning May 9 and ending November 9, 1918. The new bonds will be dated May 9, 1918.

After November 9, 1918, no further rights of conversion will attach to the 4 per cent bonds, either the original bonds of the second loan, or those obtained by conversion of bonds of the first loan. All of the 4.25 per cent bonds are nonconvertible.

Bonds for conversion may be surrendered at any Federal Reserve bank or at the Treasury Department. Registered bonds must be assigned to the Secretary of the Treasury for conversion, but such assignment need not be witnessed.

On conversion of registered bonds registered bonds only will be delivered, neither change of ownership nor change into coupon bonds being permitted.

Coupon bonds, however, may be converted into registered bonds upon request. Coupon bonds must have the May 15 or June 15, 1918, coupons detached and all subsequent coupons attached. Coupon bonds issued from conversion will have only four interest coupons attached, and later must be exchanged for new bonds with the full number of coupons attached.

CHEST EXAMINATIONS.

The report of a roentgen study of 1,000 chest examinations at Camp Devens, Ayer, Mass., is published by E. L. Davis (Springfield, Mass.), Camp Devens, Ayer, Mass. (*Journal A. M. A.*, May 25, 1918). All the patients had passed the preliminary examinations as recruits, and were sent to the roentgen laboratory because of developed lesions(or suspected pulmonary disorder. In practically every case, the roentgen findings have been confirmed by physical and clinical examinations. A list of pulmonary disorders foud in a total of 1,259 individuals is given. In 405, no disease was revealed. In 368 there was tuberculosis, and lobar pneumonia followed next in order in 258 cases, bronchopneumonia in sixty-one, and chronic bronchitis in forty-nine. There were three of interlobar pleurisy, twenty-five of pleurisy with effusion, three of hydropneumothorax, seven of empyema, two of emphysema, and one with enlarged mediastinal glands. Pulmonary tuberculosis is revealed by the roentgen ray even in its earliest stages, but its demonstration depends on the care in the technic and the keenness of the interpreter. The most definite signs of the active disease as seen on the roentgenogram are soft, fuzzy, flaxy shadows in the areas occupied by the linear markings of the normal lungs. When these shadows are found at the periphery and are mottled as if broken up with shadows indicative of peribronchial thickening leading to them, the author considers them characteristic of acute, active tuberculous lesions. When this is noticed near the apex, it is the most definite sign of active phthisis that the roentgenogram presents. When, however, the shadows appear dense and are accompanied by nodular, well defined. clean cut peribronchial thickening extending to the periphery, they are considered to indicate healed, or at least inactive, tuberculosis. While these two extremes are readily detectable in the roentgenogram, the less marked cases require a skilled examiner with much practice. The upper region, from the apex to the hilum, is considered the tuberculous area, and ninety-three per cent of the positive cases showed the lesion in this region, more especially on the right side. The middle region from the hilum to the fifth rib shows occasional lesions found by the author in less than 10 per cent of the tuberculous cases. The lower region, from the fifth rib to the diaphragm, rarely reveals lesions, and only five cases out of the 368 showed them so situated. Davis does not consider opacity in one of the apexes as compared with the other, as especially significant. It may be caused by muscular development, thickened pleura, etc. Hilum thickening cannot be considered a safe criterion in the diagnosis, and Davis is in accord with the view that pulmonary tuberculosis cannot be fairly and definitely diagnosed, except by combined consideration of the physical, clinical and roentgen findings. Shadows are often found in examining pneumonia patients, strikingly similar to those seen in phthisis, but which disappear after recovery; and in making the diagnosis the examiner should make sure as to the recent occurrence, or not, of pneumonia. He believes they are caused by sheets of fibrin deposited on the pleura during the infection. "The roentgen signs of lobar pneumonia are: (1) marked accentuation of linear shadows from the hilum to the apexes, which we propose to call vascular congestion; (2) marked enlargement of the heart shadow; (3) typical shadow of the localized area of consolidation in the lungs; and (4) high diaphragm on the affected side." The shadows are interpreted as due to the congestion of the blood vessels along the bronchi. The enlarged heart has been found in every case, except two, and it occurs early. The consolidation appears mostly in the lower lobes. In the 258 cases, thirty-one showed no consolidation in any part of the lungs, and no physical signs were detected, though the clinical symptoms were definite, and the enlarged heart was present. This would seem to support the view that the symptoms of pneumonia are more dependent on toxemia than on consolidation of the lung. It is difficult to determine in case of consolidation whether fluid is present in an amount to demand aspiration. In the cases observed of lobar pneumonia, pleuritic effusion occurred early in many. While it is generally supposed that bronchopneumonia is a bilateral disease, Davis found it more frequently unilateral, and the enlargement of the heart is not common. Bronchopneumonia is often overlooked in a physical examination, as the symptoms may be indefinite and noncharacteristic.

PNEUMONIA.

G. F. Dick (Chicago), Camp Pike, Little Rock, Ark. (*Journal A. M. A.*, May 25, 1918), reports the results of bacteriologic examinations of the sputums obtained from sixty patients during the months of February and March. The sputum was collected in sterile Petri plates, sent to the laboratory at once, and plated on the surface of human blood agar plates without addition of glucose. A detailed table shows the predominating organisms as well as the less frequent ones, the physical characters of the sputum, the clinical features of the cases, and the complications. The pneumococcus pneumonias, which occurred in forty-eight of these cases, present but little out of the ordinary. Twenty-one per cent were of Type I, 34 per cent Type II, and 45 per cent Type IV. Dick has seen but one Type III case in the hospital. In 46 per cent of the cases, streptococci were the predominating organisms, and of these 46 per cent were non-hemolytic. "These organisms formed colonies similar to the hemolytic streptococci, but had no efect on blood, neither hemolysis nor green formation being observed. The organisms were like the hemolytic streptococci as to morphology, but had more tendency to diplococcus formation, and the chains formed were short. Growth in both was flocculent and collected at the bottom of the broth. In the cases coming to necropsy, the pneumonia in which this type of organisms was found resembled the ordinary pneumococcus lobar pneumonia. This type of streptococcus was found in the sputum in two cases diagnosed as influenza, and in the pus from a gangrenous appendix, in greatly predominating numbers." Fifty-four per cent of the streptococci found were hemolytic. Two kinds of lesions were observed in these cases: 1. A pneumonia like lobar pneumonia due to pneumococci, but with a tendency to pus formation. Abscesses with areas of necrosis varied in extent, causing gangrene of large portions of the lung. In many cases, however, the pus formation was not more marked than is sometimes observed in pneumococcus cases. "2. Bronchopneumonia, in which the lungs were studded with hard, shotlike nodules, which were extremely hard to the palpating fingers. Cut sections of such lung showed areas up to 1 cm. in diameter which were dark red and completely consolidated. This form was most commonly observed following measles. The areas in some instances coalesced to form areas, in cases amounting to a lobe. In twenty-five of a series of thirty cases of mastoiditis, streptococci indistinguishable from these were isolated. The remaining five were Type IV pneumococcus infections." Leptothrix organisms predominated on the plates in 6 per cent of the cases, showing numerous minute colonies of gram-negative organisms, varying in length from a resemblance to influenza bacilli to long slightly wavy organisms extending half way across the field. There was no effect on blood, and only one or two sub-cultures could be obtained. Their importance was not determined. Dick specially notices, as of interest, the high percentage of cases due to nonhemolytic organisms, which are also found in cases diagnosed as influenza, and in the pus from appendicitis.

INFLUENZAL SINUS DISEASE.

H. E. Robertson (Minneapolis), France (*Journal A. M. A.*, May 25, 1918), remarks that a typical attack of influenza usually begins as a rhinitis spreading from the nasal mucosa throughout the respiratory tract, and all its chief symptoms are caused by involvement of the bronchial tree. The severity of the disease, however, is best shown by its consequences. It is difficult to understand, he says, why a healthy young adult should succumb to an infection that often seems to be wholly confined to the tracheobronchial mucosa. Because of this, and also from observations made while in the military service in France. it seems proper to him to suggest that other lesions than those of the respiratory tract, which are rarely looked for or reported, might prove to be very important factors in the often fatal outcome. With the coming on of cold, wet weather in the American Army zone, there was almost an epidemic of severe bronchitis, with a considerable percentage of fatal cases. In the necropsis of these cases, the pathologic syndrome strongly suggested infection by *B. Influenzae,* and bacteriologic examination confirmed this suspicion. The involvement of the sinuses at the base of the skull deserves special consideration, because of its frequency and the neglect that complication had received from writers on this disease. He gives a number of references to authorities supporting this assertion. In short, he says, sinus disease in epidemics of influenza is either totally disregarded or described as an accidental complication or sequelae of the pulmonary tract disease. Abridged notes of the necropsy examinations are given for a number of cases. Of eight fatal cases of virulent trachobronchitis due to the influenza bacillus, all but one showed involvement of one or more of the sinuses by inflammatory processes probably due to this germ. In six patients who died from some other apparent cause, and in two cases of death from accidental injury, pure cultures of the influenza germ were obtained from the sinuses. An appropriate treatment of the sinuses in influenza patients often seemed to relieve the symptoms and hasten convalescence. Robertson recommends investigation of the sinuses during epidemics of influenza, both as a prophylactic measure as well as a therapeutic one.

GONOCOCCUS ENDOCARDITIS.

The rare ocurrence and the difficulty of establishing the diagnosis of gonorrheal endocarditis seems to H. A. Benson (Kings Park, N. Y.)' Camp Pike, Little Rock, Ark. (*Journal A. M. A.*, May 25, 1918), to warrant the reporting of a fatal case of this disease. The patient had exposed himself, a few days prior to his admission to the hospital, but had not reported for the regulation venereal prophylactic treatment. The symptoms of acute gonorrhea followed the usual course, but after the patient had been up and about for a few days, arthritic symptoms made their appearance, and ten days later he had again taken to his bed, the endocardial symptoms appeared—namely: a blowing systolic murmur at the apex of the heart; arrhythmia of the pulse; and later, characteristic variations of the cardiac murmur. For a few days the patient improved slightly under treatment, but became progressively worse and succumbed. At first the remedial measures were directed toward the clearing of the urethral discharge, later the arthritis was combated by use of polyvalent gonococcic vaccine, and later still, on the theory of the non-specificity of proteins, triple typhoid was substituted. Hexamethylenamin and salicylates were administered in appropriate doses, and a course of hydrotherapy followed. Cultural studies confirmed the diagnosis. These were made, in part, from aspirated heart's blood, necropsy being refused, and gave the same organism as was isolated from the urethral discharge.

NOTES AND COMMENT

The Blount County Medical Society is now holding regular weekly meetings, having grown out of the old monthly meeting plan. We commend their example to some other societies, no larger, but much less progressive and much less interested in medical affairs in general.

Lieut. Grover Carter, M. R. C., Selmer, serving with an ambulance corps on the French front, is reported to have been wounded and "gassed," his injuries having been reported as "slight."

Letters received at The Journal office from Majors R. A. Barr and W. H. Witt, and Captains H. M. Tigert, A. W. Harris and W. C. Dixon, all officers with the Vanderbilt Hospital Unit, report those gentlemen and other officers of the Unit as well, happy and busy. Capt. W. M. McCabe, also of this organization, has recovered from a recent slight indisposition, while Lieut. R. R. Brown is well again, after having undergone an operation for appendicitis.

The Journal editor has received a letter from Capt. R. W. Billington, M. R. C., Nashville, who is on duty in a large orthopedic hospital in England. Captain Billington has evidently had a splendid experience and has rendered a fine service.

The Tennessee State Board of Medical Examiners held examinations at Nashville, Knoxville and Memphis in June. We are informed that large classes presented themselves at each place.

"Homesick? Yes, darned homesick; but not all the money in Nashville would tempt me to go home until this job over here is done." That's the spirit of those of our fellows now in France, the quotation being literal from a letter we have had. And the very same sentiment is expressed in somewhat different words in practically all the letters we have received. And, friends, that's the spirit that's going to lick the stuffin' out of the Kaiser and his cohorts.

Capt. G. R. McSwain, M. R. C., Paris, after several months' service at Newport News, has sailed for France.

The West Tennessee Medical and Surgical Association held its annual meeting at Jackson in May, and the following officers were chosen for the current year: President, Dr. L. A. Yarbrough, Covington; Vice-Presidents, Dr. J. D. Brewer, Newbern, and Dr. Herman Hawkins, Jackson; Secretary-Treasurer, Dr. I. A. McSwain, Paris. The next meeting will be held at Dyersburg.

Capt. John W. Morris, M. R. C., Somerville, has had a stormy career as a medical officer, having been twice wounded and more recently captured by the Germans while serving with the British army. Mrs. Morris has had a card from Capt. Morris—one of the form cards which German prisoners are permitted to use—stating that he was well and in the hands of the enemy.

Dr. H. C. Moorman, Somerville, was married on June 20 to Miss Sallie Bettie Claxton, of Stanton. Dr. Moorman is Secretary of the Fayette County Medical Society.

Lieut. Hubert Sage, M. R. C., Memphis, died on May 30 from wounds received in action on the battle front in France. Lieut. Sage was the second Tennessee medical officer to yield up his life on the field of battle in the present war.

Capt. R. M. Little, Martin, has received his promotion in the M. R. C., having entered as a lieutenant.

Dr. L. D. McAuley, Oakland, has been discharged from the Medical Reserve Corps because of the medical needs of the community which he has been serving for a number of years.

Capt. J. H. McSwain, M. R. C., Paris, is in training at Camp Greenleaf. There are two captains of the McSwain fraternity now serving Uncle Sam.

MISCELLANEOUS

THE BULGARIAN BACILLUS AS A REMEDIAL AGENT.

A simple and effective remedy for the summer diarrheas and other common ailments of the intestinal canal is the Bulgarian bacillus. This was popularized a few years ago by the late Professor Metchnikoff, who pointed out that this organism, in the form of buttermilk, is extensively used by the Bulgarians, who have the reputation of being the longest-lived people in Europe. While this lactic acid organism is not, of course, a panacea for senility, it is a remedy of very great value for many intestinal affections. Clock and others have shown that by its use summer diarrhea of children can be controlled more quickly and with less disturbance of the child's regular food than with any other remedy. It has also been recommended for intestinal indigestion, autotoxemia of intestinal origin, and even for such serious diseases as diabetes.

It is important to use a culture of the Bulgarian bacillus which you can depend upon. Galactenzyme (Abbott) is such a culture. This product is made from the type A organisms, of established virility, under the most careful aseptic precautions. It is available both in tablet form and in bouillon. For ordinary use, the tablets are generally preferred. Now is the time to procure a supply.

THE HAY FEVER PROBLEM.

Notwithstanding the many "specifics" and "near-specifics" for hay fever that have been brought forward in recent years, the disease, if not precisely enigmatical, continues to baffle and perplex. It is evident that no single therapeutic agent has arisen that can eliminate, or even modify, the symptoms in all cases, individual sufferers presenting problems that are peculiar to themselves. The suprarenal substance, in the form of its isolated active principle, Adenalin, is undoubtedly one of the most reliable alleviants. One feels justified in saying this in view of the long, efficient service it has rendered in the treatment of hay fever. Not infallible in a strict sense of the word, it affords grateful relief in a vast majority of cases. A powerful astringent, Adrenalin, topically applied, constricts the capillaries, arrests the nasal discharge, minimizes cough, headache and other rebex symptoms, and hastens the resumption of natural breathing. Adrenalin chloride solution and Adrenalin inhalant are the preparations commonly used, being sprayed into the nose and pharynx. The former should be diluted with four to five times its volume of physiologic salt solution, the latter with three to four times its volume of olive oil.

CHLORETONE: SUGGESTIONS FOR DOSAGE.

For its hypnotic effect, Chloretone may be administered in doses sufficient to produce the desired result without endangering the life of the patient. As one writer points out, it is useless to expect to attain that end by giving the patient small doses—5 grains—at long intervals—three times daily. In general, a single doZse of 5 to 20 grains will have the best effect. It would be well to give about 10 grains the first night, 15 the second, and 20 grains the third. When a dose is found that produces the desired result, the same dose may be repeated until the "sleep habit" has become established, when it should be reduced gradually.

When the use of Chloretone must be continued for a protracted period, as in the treatment of epilepsy, its effects should be watched lest a cumulative action manifest itself. It should not be pushed to the point of dullness and drowsiness.

As a sedative in asthma, chorea, pertussis, nausea, emseis gravidarum, and seasickness, doses of 3 to 10 grains, at stated intervals, according to the effect, are generally sufficient. As a preventive of post-anaesthetic nausea, the administration of ether is the usual practice.

The principal effects of Chloretone are manifested upon the central nervous system. It acts like other hypnotics, but, unlike most of the latter, it does not depress the circulatory system, nor does it disturb digestion.

Chloretone is procurable in 3-grain and 5-grain capsules, convenient for administration.

Remember! The men in our Army and Navy do not expect luxuries. Should we at home expect them? Buy necessities and War Savings Stamps.

The philosophy of the W. S. S. is save, save, save.

BOOK REVIEWS

INFANT FEEDING. By Clifford G. Grulee, M. D., Assistant Professor of Pediatrics at Rush Medical College, Chicago. Third edition, revised; illustrated. W. B. Saunders Company, Philadelphia. Cloth, $3.25.

Concise and practical, this book will serve well the average practicing physician who finds it necessary to have at hand at all times a good work on infant feeding. Grulee is not altogether orthodox on some questions, if we are to believe the teachings of most of the writers on his subject. He claims for his teaching, however, the merit of being based on personal observations and oft-repeated experiences, and surely no safer basis can be builded upon. The Finkelstein classification is adhered to for the most part in the discussion of nutritional disturbances.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary   J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI   NASHVILLE, TENN., AUGUST, 1918   NUMBER 4

ACUTE OSTEOMYELITIS.*

By E. M. SANDERS, M. D.,
Nashville.

INTRODUCTION.

Since diphtheria has been practically controlled, acute osteomyelitis is probably the most tragic malady that we have to face in children and young adults. It is distinctly a disease of growing bones, and rarely attacks the well-developed bony structures. It occurs most often at the age of seventeen, and but few cases happen after twenty-one. However, it does occur later in life, usually in the bones that reach their maturity in this period, notably the vertebrae. It sometimes attacks the very young—in fact, Haines says an infected umbilical cord stump in babies should put us on guard for the disease, when the symptoms are such as to arouse our suspicion; but practically all the cases are between five and twenty. The disease is noted three times as often in boys as in girls, probably due to the more rapid development of the bones, and the fact that they are more subject to trauma and exposure.

Acute osteomyelitis has been called acute necrosis, spontaneous osteomyelitis, necrosial fever, acute suppurative osteomyelitis, phlegmonous periostitis, acute suppurative epiphysitis, and bone furunculosis, which goes to show that for many years the writers have sought, without agreement, a fitting title for this fulminating condition.

This malady has been well known to the profession for years, and was treated more or less properly by our grandfathers, when they employed the free incision for the so-called "whitlow;" and it may seem presumptuous to bring the subject before this society. But there are two facts which stand out prominently and beyond question in regard to acute osteomyelitis:

First: The diagnosis is frequently missed until late in the disease, even by the best of us; and,

Second: It is a malady of such serious consequences, both in the acute stage and in the ultimate results obtained in the ones that do not die early, that I feel there is justification for bringing it to your attention.

The researches of Lexer into the distribution of the arterioles in growing bones have thrown strong light upon the part played by the blood vessels in this disease. His investigations, fortified by x-ray photographs, set out the logical reason for the frequency with which organisms become located near the epiphyseal lines. He showed that these vessels are terminal in character at the extremities of the epiphyses, especially on the distal side of the epiphyseal line, without having any free communication with other vessels; and owing to the limited degree of anastomotic communication between the groups are particularly susceptible to the lodgment of bacteria-laden emboli.

Since focal infections involving distant organs and parts have been brought to the attention of the profession, we are in somewhat better position to grasp the subject of acute osteomyelitis than heretofore; and the work of recent observers in this field has shed additional light on the etiology and pathology of the disease.

---

*Read at annual meeting Tennessee State Medical Association at Memphis, April, 1918.

A little broader definition should be given to acute osteomyelitis than we have been taught. It is an acute pyogenic metastatic disease of the bone, often violently destructive and fatal, occurring most frequently near the extremities of the long bones of children, usually beginning on the diaphysis side of the epiphyseal line.

Great stress has been laid for many years on exposure to severe weather and injury as being prominent etiologic factors in the development of this disease; but in the light of what we know today, we must come to the conclusion that acute osteomyelitis is in all probability primarily a metastatic condition, and the focus exists, or has existed, in the patient, being regarded innocent perhaps at the time. I do not mean to minimize the old teaching that exposure to cold or some preceding disease which has lowered the child's vitality are important factors; but such exposure, or trauma, or both, without the accompanying focus, we do not believe could be capable of producing the disease.

The disease occurs quite frequently following the exanthemata, and very naturally, as we find three of the ideal conditions coexisting, namely: a lowered resistance in the presence of the exciting cause in a patient with growing bones.

Murphy made the clinical observation that these metastases never occur during the active stages of an infection, but at a definite late period. He made no effort to explain this enigmatical periodicity, but stated he had made this clinical observation for some years, and that the osteomyelitis always develops at the time when the gross lesions are practically healed. In cases where the condition follows furunculosis, abrasions, or other localized infectious processes, he observed that the osteomyelitis would not develop as a rule until about the time the patient was well of the original infection. To use his own words, "The metastasis takes place at the last stage of the initial lesion, just before complete repair." There is one exception to this rule, however, and that is in the cases where the infection is of the streptococcic variety. These may come at any time during the course of the initial lesion, with or without trauma or exposure, and are the most fulminating and destructive cases met with.

It is a striking and unquestionable fact that the condition seldom follows severe injuries, such as fractures and dislocations, but is extremely common after slight local injuries, as sprains, twists, and blows. Kocher believes that extravasation of serum or blood at the epiphyseal line brought about by such injuries favors the development of the condition, provided the blood stream has in it at the time the necessary infection, or the tissues are found already containing a latent infection following an old blood stream involvement.

Prolonged chilling of the body is undoubtedly responsible for a condition in the system conducive to the development of the disease. This can be explained by the fact that while the surface areas of the body are chilled, the blood is driven to the deeper parts, where the blood vessels near the epiphyses are extremely large and low in tone, and naturally suffer very great temporary congestion. Furthermore, there is in this stage of the bone development extraordinary physiological activity at the epiphyseal lines, and the newly formed tissues are distinctly the embryonic type, and consequently have less resisting powers than the more mature tissues. On the other hand, the disease may very unexpectedly strike down those who have apparently a robust and vigorous constitution, and who are unusually strong and well developed, even in advance of their years. We have had one such case in a florid-faced boy thirteen years old, who weighed one hundred and sixty pounds, and was a perfect picture of health, vigor and resistance. The explanation of this phenomenon has been given as being that the growth and development have been too rapid, and that time has not been afforded for the rapidly forming bone at the epiphyseal lines to attain such a degree of maturity as to acquire normal resistance. In such a patient, slight trauma—as bending or straining—would bring about an unusual amount of effusion and furnish an ideal field for the growth and development of the bacteria which easily lodge in the terminal branches of the arterial group, should the anastomotic communications be interfered with.

M. L. Harris claims that the reason osteomyelitis affects, as a rule, the osteogenetic layer is a mechanical one, and is explained on the theory that osteogenesis takes place normally where the circulation is greatly retarded, and that the slower the circulation at the osteogenetic layer, the more rapid the osteogenesis; and that in the osteogenetic columns at the end of the bone we find the capillaries going to this layer dilate into venous sinuses, and that in these venous sinuses the circulation is greatly reduced in its velocity. Therefore, any micro-organisms or emboli which float in the blood will naturally land in such positions forming a nidus around which a definite osteomyelitis develops.

BACTERIOLOGY.

The bacteriology has been studied by Lannelongue and Achard, who found pure cultures of the staphylococcus pyogenes aureus in seventy-five per cent of the cases, with the staphylococcus albus and citreus occasionally found. The streptococcus is found in a few; and when it is the causative infection the case is usually of a virulent type, and destined to develop serious complications, such as arthritis, endocarditis, and infections of other serous cavities.

Occasionally a mixed infection case is found, and rarely the condition is produced by the pneumococcus, typhoid, or colon bacillus. Otto Wyss and other investigators have found other infections in isolated cases, which shows conclusively that the disease can be caused by any pyogenic infection.

As far back as 1893, Eugene Frankel published the result of an extended series of investigations which tended to prove that in acute infectious diseases pyogenic organisms are frequently present in the bone marrow, even when they cannot be found in the blood stream. He studied diligently the ribs and vertebrae, and observed that the germ found was the septic organism of the infectious disease from which the patient was suffering at the moment, and sometimes other organisms which had probably been left by previous infections. In the very severe infections in which death occurred early in the disease, bacteria were found in the bone marrow in most cases, and were always accompanied by visible inflammatory reaction. When the patient survives the acute disease, it is probable that the marrow in most cases recovers completely, and no symptoms of a bone lesion arise. On the other hand, there is no doubt but that the micro-organisms in the involved areas may retain their vitality for long periods—months or years—giving rise to no symptoms more than the so-called "growing pains" of children, until something occurs to arouse them into activity again. The latent period of the bone lesions of typhoid has been frequently noted. The so-called Brodies' abscess, which has been observed eighteen years after an attack of acute osteomyelitis, is conclusive clinical proof.

It is highly probable that bone complications occur much more frequently than has heretofore been suspected in typhoid and other infectious diseases. The symptoms developing at such times often bewilder the attending physician, and sometimes lead us far afield in our search for an explanation of the puzzling picture. More frequent and more careful post-mortems will greatly help us to arrive at the facts in regard to this theory.

From this brief survey of the bacteriology of the condition, it can be seen that the factors determining the degree of severity depend upon, first, the virulence of the germ; and, second, the resistance of the individual's bones.

FREQUENCY OF BONES INVOLVED.

According to Haaga, the tibia is most frequently involved (42 per cent), and the femur next (39 per cent). The lower end of the femur is much more frequently affected than the upper, but Moore has had in his personal experience eight cases in the neck of the femur, five of which terminated fatally. The radius, ulna, fibula, and humerus are affected in the order named.

While the disease usually attacks the epiphyseal line of the long bones, unlike tuberculosis and other low-grade chronic and subacute osteomyelitis, still we find the short bones sometimes involved.

Volkman reported four cases of acute osteomyelitis of the spine in 1915, and was able at that time to collect eighty-three cases from the literature. Staphylococcus aureus was isolated in sixty-eight per cent of the cases, and in twenty-five per cent of his cases he was able to find a felon or carbuncle as the focus. In thirty-four per cent of these cases the bodies of the vertebrae were involved; in fifty-eight per cent the arches; and in seven per cent, both. The lumbar region was involved in about three-fourths of the cases, and only one-third of his series were correctly diagnosed before death. The most common errors in the diagnosis of this series were typhoid fever, tuberculosis, spondylitis, meningitis, and rheumatism. Seventy-one per cent died.

SYMPTOMS.

The symptoms are not always clear, but we usually have a typical picture of—pain, fever, chill, rapid pulse, and leucocytosis. The rule is fever with an initial chill during the time that the septic emboli are circulating in the blood. Many times the chill is not complained of by the child, and even the temperature may be overlooked by the patient and the attendants; but the pain is so constant that we should consider seriously the patient's complaint of pain, and inquire diligently as to the chill, and examine exhaustively for the fever, bone lesion, and original focus.

In the more severe cases not only pain, fever and chills occur, but frequently delirium is present, and the patient is extremely sick from every angle. In the more vicious types of infection, the delirium sometimes is the first symptom bringing the illness to the attention of the family. This is explained on the hypothesis that an infective focus has developed within the medulla, around which the bony wall cannot expand, but the micro-organisms rapidly multiply, with the result that they are forced into circulation, as they cannot otherwise escape. There immediately follows a blood stream infection filled with septic emboli, giving rise to septicemia in its most vicious form; and other foci of infection are rapidly established.

One should never depend on localized tenderness or sensitiveness to superficial pressure as a means of diagnosis in the early stages of the disease, as the bone which incloses the focus in the medulla affords a protection for the seat of the disease and a barrier to the examining finger.

One should not confound the early findings of osteomyelitis with periostitis, as in this case the pus is simply beneath the periosteum, and slight pressure easily elicits pain. A dependable sign in osteomyelitis is to maintain for thirty seconds to a minute deep pressure with the finger tips, which will bring about a spasm of pain, in many instances unbearable to the patient. This is explained on the hypothesis that an edema develops in the periosteum over the site of the trouble and, when the blood rushes back after pressure, pain is produced. Vigorous percussion is a very valuable sign, and should always be tried. The joints of the affected limb can usually be moved without pain.

DIAGNOSIS.

It is evident beyond question that the most important phase of this subject is the diagnosis. I believe that seventy-five per cent of the cases are treated for rheumatism for a greater or less length of time before a correct diagnosis is made. This sort of error can be excused in some instances, inasmuch as the initial symptoms of the two diseases are frequently similar; and the only way the attending physician can prevent what is many times a fatal delay is to keep constantly before him the possibility of all diagnoses of rheumatism being osteomyelitis.

Acute articular rheumatism, unless of gonorrheal origin, is rarely confined to a single joint, and the pain, tenderness, and swelling, is in the joint and the immediate periarticular structures, and not the adjacent epiphyseal line or shaft of the bone. Articular rheumatism nearly always causes "early" effusion into the joints, appearing usually the first and second day, while osteomyelitis brings about a late effusion into the joints, if at all. Rheumatic manifestations in general do not present the evidences of septic intoxication that are present in osteomyelitis; the pain in rheumatism is usually of a dull, aching character and of a more severe nature in osteomyelitis. Leucocytosis is always present in osteomyelitis, and usually well marked, with a high poly count.

Typhoid fever sometimes gives rise to symptoms very similar to those in osteomyelitis, but the Widal and leucocyte count will usually differentiate the conditions. In the fulminating type, where convulsions and delirium are the first symptoms, the local condition may be overlooked until the post-mortem clears up the case. On account of the meningeal irritation which sometimes occurs early in the disease, a diagnosis of meningitis may be made.

The x-ray, when available, should always be tried, but a negative picture means nothing.

TREATMENT.

If we constantly keep this condition in mind, these cases of acute osteomyelitis are usually just as typical and classical as cases of appendicitis, and just as easily diagnosed; and the treatment is the same—early surgical intervention, within the first twenty-four to forty-eight hours.

After due consideration of this subject as a whole, one must agree with Peters that—

"There is no surgical disease in childhood in which well-considered promptness and well-controlled courage in regard to the treatment are more urgently required or more signally rewarded than in acute osteomyelitis."

The disease is entirely beyond the reach of medicinal means, administered internally or externally. It is surgical, pure and simple, from the first to the last, and requires painstaking observation and prompt action from the minute the diagnosis is made until the case is discharged. The application of poultices, counter-irritants, rest, position, and all sorts of expectant treatments are absolutely useless. Not only are they useless, but positively injurious, because in addition to being utterly futile in themselves, they are time-consuming and tend to promote a false feeling of confidence and security in the minds of the family and friends, and only serve to bring about multiple septic emboli floating in the blood stream, and taking up lodgment in other bones and organs of the body.

When the lesion is found, a free incision should be made in the soft parts, and the edema of the periosteum sought for, which, when located, is proof that the pus is near. Then a hole should be bored directly into the bone; and if pus is found, chisel out a liberal piece of bone as far both ways as indicated by the picture before you.

An unnecessary incision is much less to be deplored than the neglect of a needed one. The incisions should be made free and as numerous as the case requires, respecting, of course, the anatomical features of the locality in which the work is indicated. Most epiphyses may be reached with absolutely no danger to important structures; but in some locations—namely, around the hip, knee, and elbow joints—anatomical knowledge of the underlying structures is an indispensable requisite.

One should always remember that an operation such as is indicated in these cases is one of very considerable gravity on a healthy child, and the shock and loss of blood resulting from such heroic treatment on a patient whose resisting powers are already taxed to the utmost might easily turn the scale in the wrong direction, and result in a fatal issue. Consequently, every facility should be at hand for the rapid execution of the operation, and every safeguard thrown around the patient.

There has been a considerable amount of discussion as to the question of opening the medullary cavity—some surgeons hold that the disease always commences in the medulla of the bone, and others hold that very often the disease is confined, in its early stages, at least, to the red marrow and periosteum near the epiphyseal lines. With the bone exposed it is a simple matter to drive a large bit into the suspected areas, and the harm done if no results are obtained is so little, and the benefits if such is necessary are so great that one should not hesitate, when working under the conviction that the seat of the trouble is deeper and is not satisfied with what has already been found more superficially, to go into the medulla not only at one place, but several.

Many ingenious operations, as brought out by Nichols and others have been devised for the management of the case at operation to prevent bony shortening and deformity, which should be studied carefully by those working in this field.

The question of amputation in violent cases arises, and there are a few cases so severe and threatening to life that during the acute stage, amputation is the only means of averting death. When the disease is very extensive in the medulla of the bones, and the thrombotic condition of the vessels of the bone has spread to the main vessels of the limb; and especially if one or more of the adjacent joints have developed a suppurative arthritis, amputation is not only indicated and justified, but imperative. It can be more readily and safely done than a sufficiently extensive operation to bring about adequate drainage. Where amputation is performed, the stump should be left wide open for the time being.

COMPLICATIONS.

Park maintains that there is no infectious process which is followed by death through such a variety of complications as acute osteomyelitis. In fact, in the fulminating type of the disease, he believes that the condition becomes a pyemia early, and that the blood stream is so filled with bacteria-laden emboli that minute abscesses in the lungs, kidneys, heart muscles, spleen and brain, with toxic symptoms and rapid dissolution, is the rule, unless the condition is recognized early and dealt with heroically. Meningitis is not infrequently the cause of death, and septic pneumonia is not at all uncommon.

Involvement of the cord in the process of the infection has been one of the commonest causes of the nortality when the disease has occurred in the spinal column.

An acute ulcerative endocarditis, or suppurative inflammation of the serous cavities, such as the pericardium and pleura, sometimes occurs. It should be a routine practice not only to examine all epyphyses at the time that a suspected case gets its initial examination, but also to keep a strict watch by daily examinations for the development of additional foci during the progress of the disease. Cases are recorded where as many as ten bones have been affected simultaneously; and it is just as important to recognize and treat promptly the second and third and other foci as the original one. About fifty per cent of the cases have more than one bone involved.

Septic arthritis adjacent to the disease is not the rule, but occasionally the infection travels through the epiphyseal cartilage and thus reaches the joint, which complication is not only disastrous to the integrity of the joint, but frequently to the life of the patient. The joint can become involved in another way—that is, by the pus breaking through the bone and periosteum, traveling in the subcutaneous tissue over the joint, causing septic thrombosis of the vessels, and thus gaining entry into the joint cavity. Some joints are more liable to be involved than others, the reason being that the synovial cavity of the joint is more intimately connected to the epiphyseal cartilage. For example, when the neck of the femur is involved, the trouble is almost certain to terminate in suppuration of the hip joint, as the upper epiphyseal cartilage of the femur is entirely within the joint cavity. The elbow joint is particularly vulnerable when the lower extremity of the humerus or the upper end of the ulna or radius is involved.

An intra-articular effusion may develop, but remain aseptic in character, and the joints should not be opened without means being taken to ascertain by cultures whether the contents are septic or not.

We need not worry about pathological fractures, bone sequestra, and permanent sinuses, if we will apply ourselves to the early diagnosis and immediate operation; but if we wait for a septic embolus to plug the nutrient artery, cutting off the blood supply of the bone, and for destruction of not only the contents of the medullary canal and bony substance, but also of soft tissues and joints by the pus finally escaping to the periosteum and traveling up and down to the joints above and below, the case becomes one of serious responsibility and great care. Then one can boast of letting out a gallon of pus, and by so doing he affords a gallon of proof that the case has not been properly managed. On the other hand, it is hardly permissible to boast that we have let out a little pus, because these cases should be opened before an appreciable quantity of pus has formed.

PROGNOSIS.

Murphy claims that sixteen per cent should cover the death rate, taking one case with another, when diagnosed and operated upon early.

There is a definite percentage of the cases, however, where the symptoms are so profound in the beginning, and the evidences of a severe auto-intoxication are so well marked that a fatal result is a foregone conclusion. Death will sometimes occur in thirty-six hours. It has been noted that in this type of case, the bone lesions are seemingly at times quite trivial, and are entirely overshadowed by constitutional manifestations. These fulminating cases, however, are comparatively rare, and in the vast majority of cases life can be saved by early and free incisions down to the bone, and liberal drainage established to the medulla, through which the pus can escape.

There are cases, also, so mild that the process terminates without actually producing suppuration, where nature gets control of the process, and nothing is left of a serious nature when the attack has passed off. In other cases, however, the process is sufficiently destructive to the epipihyseal cartilage to permanently impair its function; and the growth of the bone in length may be interfered with to such an extent that it never attains the full stature of its fellow.

The treatment of the wound, the drainage material used, the after treatment employed, and all other details about which so much could be said are of little consequence.

The everlasting suspicion in the mind of the doctor in cases of pain around the long bones and joints of children; the early diagnosis as made by taking a careful history and making a painstaking examination; and the prompt interferenee, relieving the pus from the medullary cavity of the bone—is ninety-nine per cent of the subject.

DISCUSSION.

DR. ROBERT MANN, Memphis: Dr. Saunders made one mistake in his paper, and that was apologizing for bringing this subject before the Association. He states that 75 per cent of the cases, in his opinion, of this disease were due to delay in operating. I believe that the percentage is higher than that. How many of us who do surgery ever see these cases before almost irreparable damage has accrued? One out of ten, I dare say, has gone so far that the pus infection has burrowed down the medullary canal, destroying the blood supply from within, broken through the dense bone, lifting up the periosteum from one end to the other; destroying the blood supply without going beyond dead bone in most cases that were operated on. It is a rare thing that we get these cases early. The cause in most of these cases is indifference that we attach to the complaint of the child of pain around the joint. We are inclined to think that these growing pains are due to rheumatism and things of that kind. If we do not reach them before two or three days, great damage is done. They should be operated on before 36 hours—12 hours, if possible, and we can make a diagnosis within 12 to 24 hours by a painstaking examination, by microscopic examination of the blood, the high leukocyte count, etc. You will find a leukocyte count of 20,000, 30,000 or even 40,000. There is no palpable evidence until the pus has broken through subperiosteally; there is practically no tenderness locally until such a thing has happened, and then we get tumefaction and swelling of the soft structures.

Among the chief dangers, as the essayist mentioned, may be enumerated septicemia and pyemia. In a pyemic case it is always well to look out for thrombosis in a vein, and in the event of infection of long bones around the limb, it can usually be ascertained, not always, as the veins carrying blood from the bones are deep-seated. Amputation, of course, is then indicated.

Another feature that I have noticed is that in operating before three days duration, if you find pus subperiosteally, it is not usually a case of osteomyelitis, but a case of periostitis with pus formation. Pus will hardly break through the bone in three or four days time. In osteomyelitis in old people, we are more justified in amputating than in the young, as they bear the infection not so well.

I have been much interested in the doctor's thorough pathological review, and his different theories, and I think he has covered the subject in a most splendid manner.

DR. ROBERT CALDWELL, Nashville: I want to endorse what Dr. Mann has said with reference to Dr. Sanders apologizing for presenting this paper. There has been no more important paper presented to this Association than the one to which we have listened in dealing with this subject, because I believe, as a whole, the profession is slower to recognize acute osteomyelitis than possibly any other acute disease that we come in contact with at all frequently. So I would like for the Association to remember the paper Dr. Sanders has given us.

I am afraid Dr. Mann and Dr. Sanders left an impression with the members that I think is a little misleading, and that is, they spoke too much about joint swelling or confounding acute osteomyelitis with rheumatism. The history we get in these cases is this: A child, two or three or five or six years of age wakes up in the night complaining of pain in its leg, and the mother says it has been crying ever since. In using the leg, the child will cry with pain. If you go to see the child and find he has a temperature of 101 deg., 102 deg., or possibly 103 deg., and still complains of pain. You do not wait to make a diagnosis of acute osteomyelitis in that child until you get this swelling any more than you wait with your appendix case when he wakes up with colic, vomits, and has a temperature of 100 deg., and a little increase in the pulse rate. You do not wait to get the board-like abdomen and marked local tenderness before you say that child has appendicitis. And the same thing applies to a case of acute osteompelitis. You do not wait for the classical symptoms before you have the temerity to go in and operate. You save the osteomyelitis patients long periods of suffering and disability and long periods of sinuses when you get them the first 24, 36 or 48 hours, just as you get acute appendix cases. I do not know of any other disease that corresponds with the acute appendix so closely as acute osteomyelitis. These cases need to be operated on early. Do not look for pus or edema down to the periosteum, but when you have a history of the patient waking up and crying from severe pain in the leg, pain in the thigh, or what not, and that pain is persistent like an appendix pain, do not hesitate to make a diagnosis. It is definite, it is increasing in severity, the temperature rises, and it is just exactly like a case of acute appendix. Prompt interference in such a case will generally bring about a cure. The swelling even in these late or delayed cases, although characteristic, is not at the joint. If it involves the bones of the arm, as an illustration, the swelling will go down to the joint, but beyond the joint you have none. In joint trouble you have the swelling extending below and above the joint to the same degree, but this swelling, if you watch the child, goes down to the joint, and not below the joint.

I recall a case I operated on about three years ago. The patient was a boy, 15 years of age, who, four or five days before I saw him, was seized with pain which extended down to his knee. He was markedly swollen up to his hip. The whole leg was swollen below the knee, but absolutely no swelling at all from the articulation. That eliminates joint involvement.

There is one other point I would like to speak of, which is a little contrary to the accepted views of this trauma problem in these cases. Personally, I do not believe trauma is a more important factor in causing these cases than in causing acute appendicitis, because the trauma is so slight, and even severe traumas are not followed by osteomyelitis. I believe the doctor's patient had an infection, and trauma was noted because of the infection.

DR. S. R. MILLER, Knoxville: I want to ask Dr. Sanders how we are going to tell where to operate on these cases early. It has been my misfortune never to have seen these cases during the first two or three days, and the one case I recall now was different from what Dr. Caldwell said a moment ago. This case was brought in five or six days after the onset, and the patient was badly swollen from the hip to the toes, and including the toes. I made a diagnosis of osteomyelitis. We had x-ray examinations made. The x-ray expert could not tell us anything of any involvement of the bone, and yet I persisted it was a case of osteomyelitis, notwithstanding the case had been brought there as one of knee-joint disease or knee-joint infection. The patient was the son of a mountaineer, and he wanted to carry the boy back to his community and get his family physician to look after him, and I said frankly, "I do not know whether to operate on the tibia or the femur." The case developed in a few weeks a sinus in the lower fourth of the femur, and the disease was in that region.

One other point is in reference to diagnosing epiphysitis. We can have epiphysitis. I had one such case within the last year involving the head of the femur, and it was some time before we could make a diagnosis. At first, I made a diagnosis of probable osteomyelitis, but this patient's disease was as much in the knee as it was in the hip. There again I did not know where to operate. An x-ray examination was made a little later, and the x-ray man diagnosed tuberculosis of the hip. I am satisfied from the course of the case it was one of epiphysitis, that I was mistaken, and the x-ray man was mistaken in saying it was tuberculosis of the hip rather than osteomyelitis.

DR. SANDERS (closing): I am very much obliged to the gentlemen for their free discussions, and in answer to Dr. Miller's question I will say that I am not in any better position to answer it than what he already knows. But, as a matter of fact, in looking over writings and discussing this subject with authorities, this fact is true, that the fine line to be drawn by the early symptomatology of epiphysitis and osteomyelitis and periostitis is largely an imaginary one, and some of the authorities even go so far as to claim there is no such thing as a periostitis. I found that in one of the standard textbooks while writing this paper, and that is a difficult question, and I would not presume to answer it.

As to what symptoms we should have to justify us to operate on these cases early, I would say that I would feel justified in operating on any child that complains of severe pain, and the pain is usually very severe, preceded by a chill, with a rise of temperature which is well marked, and a high leukocytosis. With a leukocytosis of 20,000, 30,000 or 40,000, with a high poly count with anything like reasonable definite localization, I would go into that bone and take the responsibility.

I want to say a word that I did not put in the paper about the necessity and importance of going on with the work we have started with focal infections in children, and that is cleaning up diseased tonsils and diseased teeth, and preventing children from getting as many of the contagious diseases of childhood as posible There can be no question that many fatal cases of osteomyelitis follow in the wake of the diseases of childhood, where they get a streptococcus or other high-grade infection, leaving them lowered in vitality, and with infection added, it puts them out of business.

REPORT OF THE COMMITTEE ON SOCIAL MEDICINE.

By Wm. Krauss, M. D., Chairman.

The problem of Social Insurance, or, more properly, the co-ordination of the forces for medical relief, has been approached from the side of the wage earner, from the side of the public economist, that of the statesman, and that of the public health service.

A few prominent men in the medical profession have studied the problem as it may affect the practice of medicine, but from personal inquiry your chairman finds that very little interest has been taken by the general practitioner.

It has therefore occurred to me that if this preliminary report were to bear upon what may happen to the medical profession if such a law were to be enacted, some of our doctors might begin to devote a little time to the study of the question.

This report presents in chart form two systems, one proposed by the Association for Labor Legislation, the other by the Public Health Service, with some comments abstracted from the papers of Dr. Alexander Lambert and Surgeon Warren.

Your committee requests an earnest consideration of this question, and refers more particularly to the literature cited.

All of you have had to do with medical relief in some form or other. Many of you have asked yourselves this question: Why does the medical profession have to bear the brunt of the twin social cancers—sickness and poverty? Those of you who have attempted to fatten your batting average by charging a wealthy man a fee for saving his life that to you seemed more nearly to approximate the economic value of the job will know what maledictions have been hurled at your devoted heads, whilst men in other professions who have handled economic values of smaller magnitude for much greater fees, have been paid without a murmur. Add to this the twenty years of unproductive toil which is necessary to make a doctor, only to find that he is out of date while still in the prime of life, and the question obtrudes itself: Why be such a fool as to study medicine, anyway?

The men who successfully make their junior "med" have proved themselves of a mental stamina that ought to make a fortune in any business, and yet it is soberly proposed to establish social medicine on a basis of average present medical income, regardless of the amount of work the poorly-prepared and unfortunately-placed members of our profession get to do. Under social medicine there will be infinitely more work and less men to do it.

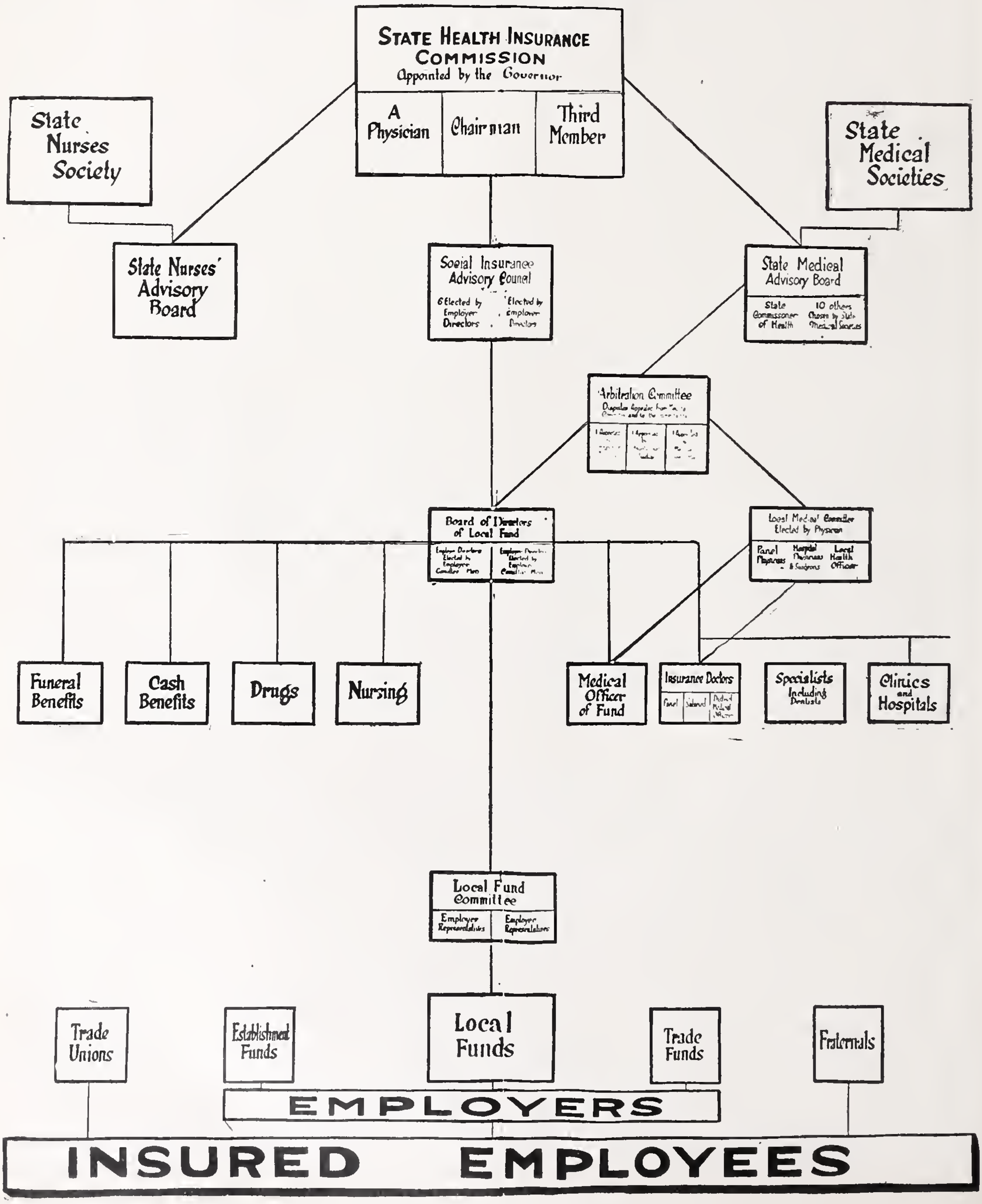
In order to make myself more clear upon this point, I quote from Lambert: "* * * It was found that even among the well-to-do, 19 per cent did not receive adequate care; among the middle classes * * * 50 per cent were not adequately cared for, and among the poor 68 per cent received inadequate care." Now, it is patent that with any system of health or sickness insurance these inadequately-cared-for people will demand and expect medical relief, and, in the case of the greater number of hospitalized cases, more diversified care will be received. In other words, the actual amount of medical work will be more than doubled, and yet it is proposed to compensate medical men on the basis of present average incomes. It is proposed to do this on a fictitious average, reduced by the income of those who practice medicine as a side-line, and those who should not be permitted to attend upon the sick in any capacity.

Unless we, as an organized body of men, take the initiative and appoint paid standing committees to study the problems of health insurance, the history of the enslaving of the medical profession in Germany and, later, in England, will be repeated in the United States.

It would carry us too far afield to discuss all phases of the problem of social medicine. It has, therefore, seemed to me important at this time to consider the economic status of the doctor himself, and let others look after the problems affecting the other groups interested in the expected new order of things.

Warren says: "With a sickness expectancy of nine days per insured person per year, the physician with 1,000 insured persons on his list might expect to have 20 to 40 of these constantly sick. This estimate applies only to insured persons; if the families are to be included in the medical benefits, and if the average family consists of wage earner, wife and child, the amount of medical work would be increased at least 200 per cent."

Three plans of compensation are proposed: (1) The Capitation Plan. Under this plan the doctor is paid so much per patient per year. At the end of each quarter the number of patients on his panel are averaged for


State Health Insurance Commission
Appointed by the Governor
A Physician
Chairman
Third Member
State Nurses Society
State Medical Societies
State Nurses' Advisory Board
Social Insurance Advisory Council
6 Elected by Employer Directors
Elected by Employee Directors
State Medical Advisory Board
State Commissioner of Health
10 others Chosen by State Medical Societies
Arbitration Committee
Board of Directors of Local Fund
Local Medical Committee Elected by Physicians
Panel Physicians
Hospital Physicians & Surgeons
Local Health Officer
Funeral Benefits
Cash Benefits
Drugs
Nursing
Medical Officer of Fund
Insurance Doctors
Panel
Salaried
Specialists Including Dentists
Clinics and Hospitals
Local Fund Committee
Employer Representatives
Employee Representatives
Trade Unions
Established Funds
Local Funds
Trade Funds
Fraternals
EMPLOYERS
INSURED EMPLOYEES

PLAN FOR THE ADMINISTRATION OF HEALTH INSURANCE the quarter, and he is paid accordingly. There are certain modifications of capitation in England which might be followed. The total amount given for capitation is divided into a fund for straight capitation, and a fund for special services. These as disbursed according to agreement.

As Lambert says, capitation is the method of lodge practice, and payment under this method would make remuneration to physicians under the insurance law one of lodge practice developed to the *nth* power. It forces hurried and inadequate service, and worst of all, under such circumstances that the really sick patients who need the greatest amount of attention are the least adequately cared for. "It produces the kind of contract practice against which the profession has protested for years, and because in the past it has forced overwork and underpay to the physician and the poorest kind of returns to the patient, it has been invariably bitterly condemned by the profession."

"At the other extreme of methods of remuneration to physicians is the payment of physicians by visitation, in which the physician treats his patients as in ordinary private practice, and charges each visit pro rata against the funds." Many writers, discussing this plan, urge the objection that it is expensive, that it invites unnecessary visits, that the fund against which these visits are charged is unable to make estimates in advance and is apt to become overdrawn. On the other hand, dishonesty on the part of the doctor would be discouraged by the other doctors on the panel, who would suffer thereby, and therefore exert a checking influence, and it would tend to retain the established relation of confidence and privacy between the physician and patient.

The third plan is a combination between the two. All medical services are reckoned in points, an office visit being one point, a house call two points, a night visit three points, etc. At the end of the quarter the number of points made are handed in and prorated according to the amount available. This is supposed to make the fund flexible and to provide adequate care in times of epidemics and still afford sufficient compensation during periods of exceptional healthfulness.

This plan is believed to be an effectual check against unnecessary work, since the other physicians would be obliged to see that they received a fair proportion of the work.

In some places (Leipzig) the fund is paid into the medical society in a lump sum and at the end of the quarter the amount is pro-rated according to the number of points made. The plan also includes choice of physicians up to a limit beyond which a physician may not accept further calls.

Considerable friction and confusion has been caused in Germany and in England, owing to the fact that there was not adequate supervision of the work done. Several proponents would have a small army of officials to supervise the work and decide whether visits are necessary or how long they should be continued. In some of the plans the state health authority has jurisdiction over districts and individual units, several of which might be in a single town. Anyone having in mind only the most recent abuses of political power would hesitate to recommend any elaborate scheme of state organization.

We may well expect to see our legislature consider and attempt to pass some very unwelcome undigested legislation, banking upon the proverbial complaisancy of the medical profession. Are we not constantly shouting from the housetops that we are a noble, self-sacrificing profession? Is it not reasonable to suppose that any form of legislation for medical relief would be accepted joyfully by such an altruistic body of men? Is it not well known that we spend most of our time in hospitals, dispensaries and private practice, doing freely and without compensation what no other branch of the body politic would do? Ergo, making us work twice as hard for half the pay would be just what it is assumed we would be looking for. Any attempt at opposition, and the patent medicine trust would get active with allegation that all the doctors' trust wants is to control the supply of doctors and increase the price of services.

The following is clipped from Lambert: "Carr, Barnett and Taylor, in discussing the National Insurance Act in England, referring to the antagonism aroused in the medical profession by this act, says: 'There have been few things more surprising to the public in connection with the National Insurance Bill than the unexpectedly threatening attitude assumed by the medical profession. The community has been so accustomed to regard medical men as amiable weaklings in business matters, easily gulled by piteous tales or flattering remarks about the magnanimity of the medical profession, that the idea of what was called a strike of doctors seemed to be rather amusing, and it was only after several months that the public began to realize that the profession was showing itself in a new light and was determined at all costs to insist on certain definite provisions being included in the bill.''

To give you a concrete example of the importance of this subject, and the need for thorough comprehension of its possibilities, I shall cite the experience in some of the cities in Germany. The ''panel'' being fixed, but the amount of work variable, it has occurred that a ''point'' would in some instances cash in at a face value of 10 cents, e. g., 10c for a prescription, 20c for a day visit, 30c for a night visit, $4 for an obstetrical attendance, and in the latter case the doctor had the consolation of collecting 20c each for the extra visits he had to make.

I shall now take up the subject of organization, since this will need considerable study and attention. None of the schemes thus far proposed have appealed to me. The following is a letter from Surgeon-General Blue:

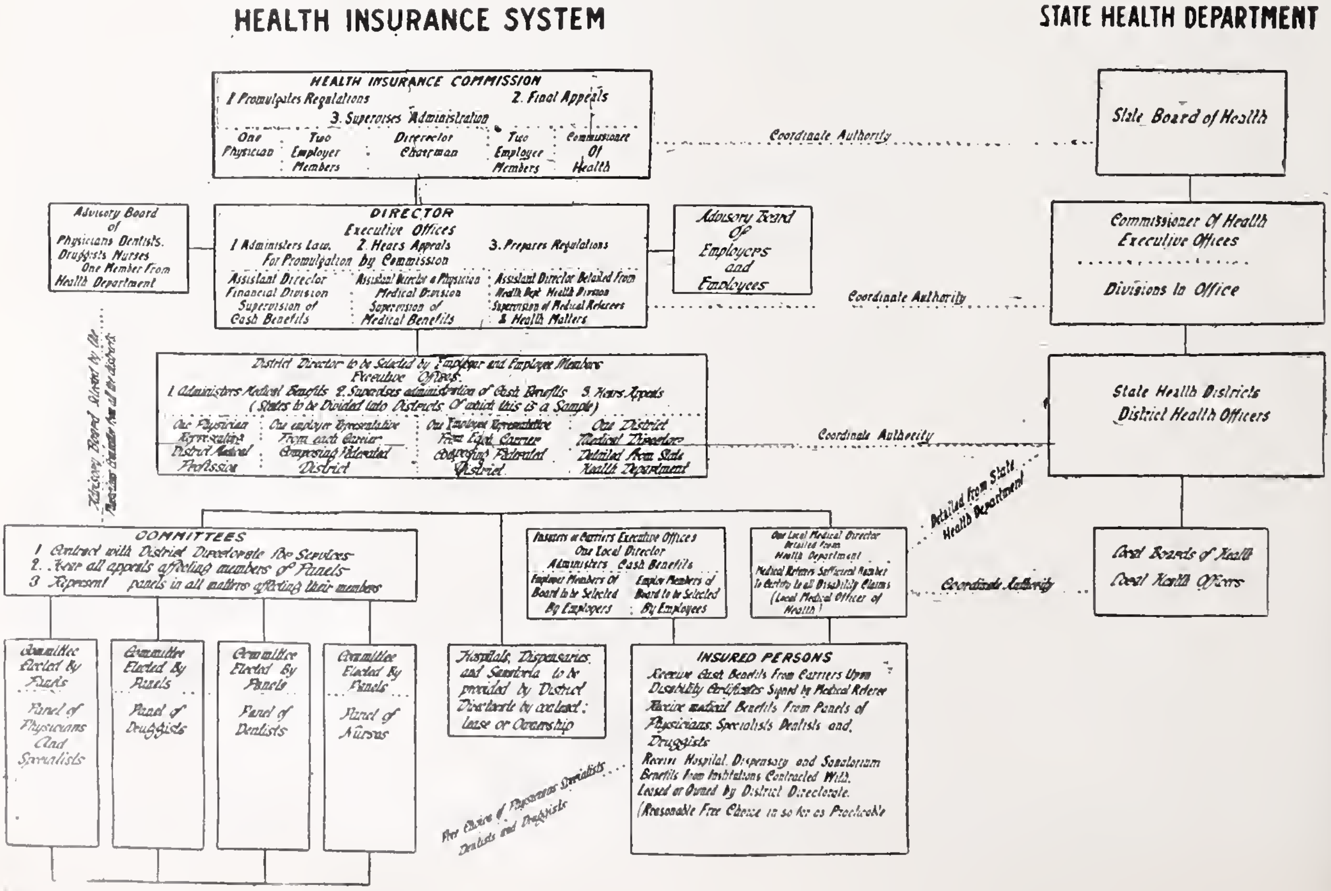
Washington, D. C., Feb. 13, 1918.

Dr. Wm. Krauss,
Suite 1250, Bk. of Commerce Bldg.,
Memphis, Tenn.

Dear Doctor Krauss:

In reply to your letter of February 9, 1918, concerning social insurance, I am forwarding to you, under separate cover, a number of publications on this subject, together with a carbon copy of a paper presented by Dr. Warren and Mr. Sydenstricker at the annual meeting of the Medical and Chirurgical Faculty of Maryland.

Dr. Warren was detailed to study health insurance systems with special reference to provisions for co-ordinating such systems with health departments. The study developed the fact that in none of the systems were proper provisions made for such co-ordination. Without proper co-ordination it is believed that a sickness insurance system would not prove as adequate a preventive measure as it would if


HEALTH INSURANCE SYSTEM
STATE HEALTH DEPARTMENT
HEALTH INSURANCE COMMISSION
1 Promulgates Regulations
2. Final Appeals
3. Supervises Administration
One Physician
Two Employer Members
Director Chairman
Two Employee Members
Commissioner Of Health
Coordinate Authority
State Board of Health
Advisory Board of Physicians Dentists. Druggists Nurses One Member From Health Department
DIRECTOR
Executive Offices
1 Administers Law.
2. Hears Appeals
3. Prepares Regulations For Promulgation by Commission
Assistant Director Financial Division Supervision of Cash Benefits
Assistant Director a Physician Medical Division Supervision of Medical Benefits
Assistant Director Detailed from Health Dept. Health Division Supervision of Medical Referees & Health Matters
Advisory Board Of Employers and Employees
Coordinate Authority
Commissioner Of Health Executive Offices
Divisions In Office
Advisory Board Elected by the Physicians from all the districts
District Director to be Selected by Employer and Employee Members
Executive Offices.
1 Administers Medical Benefits 2. Supervises administration of Cash Benefits 3. Hears Appeals
(States to be Divided into Districts Of which this is a Sample)
One Physician Representing District Medical Profession
One employer Representative From each Carrier Composing Federated District
One Employee Representative From Each Carrier Composing Federated District
One District Medical Director Detailed from State Health Department
Coordinate Authority
State Health Districts District Health Officers
Detailed from State Health Department
COMMITTEES
1 Contract with District Directorate for Services
2. Hear all appeals affecting members of Panels
3 Represent panels in all matters affecting their members
Insurers or Carriers Executive Offices
One Local Director
Administers Cash Benefits
Employee Members Of Board to be Selected By Employers
Employer Members of Board to be Selected By Employees
One Local Medical Director Detailed from Health Department
Medical Referees Sufficient Number to Certify to all Disability Claims (Local Medical Officer of Health)
Coordinate Authority
Local Boards of Health
Local Health Officers
Committee Elected By Panels
Panel of Physicians And Specialists
Committee Elected By Panels
Panel of Druggists
Committee Elected By Panels
Panel of Dentists
Committee Elected By Panels
Panel of Nurses
Hospitals, Dispensaries, and Sanatoria to be provided by District Directorate by contract: lease or Ownership
Free Choice of Physicians Specialists Dentists and Druggists
INSURED PERSONS
Receive Cash Benefits From Carriers Upon Disability Certificates Signed by Medical Referee
Receive medical Benefits From Panels of Physicians. Specialists Dentists and Druggists
Receive Hospital. Dispensary and Sanatorium Benefits from Institutions Contracted With. Leased or Owned by District Directorate.
(Reasonable Free Choice in so far as Practicable

machinery were provided for disease prevention. The economic incentive for disease prevention which would be created by compensation features would doubtless in the long run develop some kind of disease-preventing machinery. This would probably prove a slow, cumbersome method. In order to meet this defect in existing health insurance systems, the Public Health Service has laid great emphasis upon the necessity for making proper provision for connecting up health agencies with proposed sickness insurance systems.

In addition to the preventive features of health insurance your attention is especially invited to the discussion of the medical referee features and the provisions made through them for linking up any proposed health insurance system with existing health agencies.

As to the matter of the detail of a service officer to discuss this subject at your symposium, I fear that owing to the present war emergency it will not be possible to spare an officer for this duty.

Very truly yours,

Rupert Blue,
Surgeon-General.

The organization proposed would be about as follows:

1. Make the State Commissioner of Health an ex officio member of the state health insurance commission.

2. Detail a medical director from the state health department to assist the commission in supervising the administration of the medical benefits and to act as health advisor and director.

3. Detail district medical directors from the state health department to aid in the administration of the medical benefits in their respective districts.

4. Detail from the state health department a sufficient number of local medical officers to act as medical referees and to sign all disability certificates, and to perform such other duties as may be authorized by law or regulation.

In order to visualize this organization and show just how it should form an interlocking directorate between the health insurance system and the health department, I have prepared an organization chart to illustrate these particular points.

To give some idea of the size of such a corps, it may be tentatively estimated that it would require one medical referee to every 4,000 insured persons. In a state with 1,000,000 wage-earners, this would mean 250 local medical officers giving their entire time to the study of the health of the insured persons. This, of course, would be in addition to the medical treatment furnished by the panel physicians.

The objection could not be offered that such a corps would be too expensive, for it must not be forgotten that all the measures now advocated provide for medical referees. The only additional expense incurred by this plan would be for the medical director and the district medical directors.

Even if the expense of the whole corps were an additional expense, the cost would not be prohibitive, because the medical referees would more than save their salaries in the disallowances of unfair claims. Furthermore, while an estimate cannot be made of the amount to be saved by the work of these health experts, it is safe to say that it would be many times more than the sum of their salaries.

At first glance this plan has been considered by some to be impracticable because they thought it gave too much authority to the health departments. It, however, does not add to the authority of health departments; it only extends their field of usefulness.

The duties of the referee as related to the insurance system would be to see and keep in touch with the sick insured, to certify to their disability, to advise with the treating physician, to advise the insuring agency as to measures calculated to shorten disabilities, and to prevent disabilities among insured persons.

The duties of the referee as related to the health department would be almost identical with the above, with the additional duties of sending duplicates of morbidity and mortality reports to the department, and advising as to any assistance he may need for research into the causes of sickness in his jurisdiction.

For the proper performance of these two sets of duties he would be responsible to each department. But under the organization proposed, referees would receive state appointment, subject to duty anywhere within the state, so that if for any reason his services were not locally satisfactory he might be shifted to another locality; in fact, there should be a limit to his tour of duty in any one locality, to prevent him becoming too thoroughly identified with the local politics or other conditions which might give him a bias to his decisions or actions.

The plan has been criticised, owing to the fact that it does not place employment of the referee under the control of the local insuring agency, one of the parties interested in his decisions as referee. It would seem obvious that a referee should not be employed by one of the parties at interest. Further criticism has been made that the treating doctors would not submit to supervision by a representative of the state health department. It is hard to understand why they would object to the physician employed by the state, but would have no objection to the same supervision by a physician employed by the local insuring agency.

In order to secure the best men for medical reefrees, it is proposed in the plan to require an examination, physical and mental, as to qualifications, and after a probationary period of satisfactory service to make the appointment permanent, subject to efficiency and good moral conduct. It is believed that the prestige of a state appointment, and the permanent tenure of office, will obtain better men at the same salary for these offices than employment by local insuring agencies on a contract basis, with the liability that the contract may not be renewed on its termination. Furthermore, organized into a state corps with central control and direction, with a strong *esprit de corps,* there would be developed a health machine protecting every home, consisting of men trained to see unhygienic conditions, with a vision for the total environment, and clothed with all the present powers of the health department to look into conditions that are liable to cause disease, and with such influence as the prestige of state appointment may give to their opinions and acts.

According to the other scheme, worked out by the American Association for Labor Legislation, and favored by Dr. Lambert, the state health authorities and the district and ideal health representatives, act entirely in an advisory capacity. A study of the diagram will show that the state commission is composed of a chairman, a physician and a third member. These are appointed by the Governor.

The interests of the physicians, nurses, health department, insurance companies and insured are taken care of by advisory boards. Referees are chosen by representatives of the various interests, and arbitration committees are provided for to settle disputes.

Physicians of a panel are to organize, either as such or through a medical society, for bargaining with the funds and for naming a representative at arbitration committees and advisory boards.

The two schemes differ principally in the amount of control exercised by the health authorities. In the first plan, the health executive is a member of the commission; in the second he is on the advisory board. This relative position of the health representative is maintained down to the smallest unit, the medical referee being in fact a representative of the health department. It is pointed out that such a man might lack the versatility to be able to decide questions of injury and physical disability, and still be a good health officer, but in fact this is what the present-day medical army officer has to do routinely.

It is hoped by your committee that every member will study Health Insurance in all its bearings.

WM. KRAUSS, M. D., *Chairman.*

BIBLIOGRAPHY.

"Health Insurance; Report of Standing Committee, Etc.," by William C. Woodward, M. D.; B. S. Warren, M. D. Reprint No. 353, Public Health Reports.

"Health Insurance; Its Relation to the National Health," by B. S. Warren, M. D. Reprint from the Journal of the American Medical Association, Sept. 30, 1916.

Public Health Bulletin No. 76, March, 1916, "Health Insurance; Its Relation to Public Health," by B. S. Warren and Edgar Sydenstricker.

"Health Insurance; Its Relation to Preventive Medicine," by B. S. Warren, M. D., and Edgar Sydenstricker.

"Medical Organizations Under Health Insurance," by Alexander Lambert, M. D.

"Industrial Conditions; Their Relation to the Public Health," by B. S. Warren, M. D.

Reprint No. 195 from the Public Health Reports.

"Health of Garment Workers; the Relation of Economic Status to Health," by B. S. Warren, M. D., and Edgar Sydenstricker. Reprint No. 341, Public Health Reports.

"Sickness Insurance; a Preventive of Charity Practice," by B. S. Warren, M. D. Reprinted from Journal of American Medical Association, Dec. 11, 1915.

"Statistics of Disability; a Compilation of Some of the Data Available in the United States," by B. S. Warren, M. D. Reprint No. 335, Public Health Reports.

INSTITUTIONAL CARE OF INFANTS.

By R. H. Perry, M. D.,
Nashville.

On account of the high mortality of infants in infant asylums, orphanages and like institutions housing destitute children, the whole system of such charitable care of these unfortunates is often condemned. For while it is true there are a few institutions of this character whose mortality rates are low, in the majority they are appallingly high. This, together with the fact that institutional infants do not thrive as well as babies in private homes are given as reasons for condemning our present methods of institutional care.

Chapin is one of the latest authorities to bitterly denounce the existence of infant asylums, foundlings' homes, and like institutions. According to his ideas, the "boarding out" system would solve the problem. According to this scheme the infants would be placed in private homes and the foster parents paid so much for their care, the infants, of course, being under the constant observation of a paid physician and visiting nurses. This Chapin claims should be under state control and would be cheaper and more effective than our present way of maintaining large buildings with their expensive upkeep.

However effective the "boarding-out" system may be, legislatition providing for its existence in most cities at least would be slow in formulating and the infant asylums, orphanages and homes of like character will always remain a necessary evil. To those interested in this work the important question is How can we best remedy conditions as they exist?

To answer this it is necessary to inquire into the causes of the high mortality of institutional babies. That the mortality is high is a well-known fact. In some it reaches as high as 70 per cent. Chapin, quoting statisties from eleven infant asylums operating in New York state shows that the mortality under two years averages 422.5 per 1,000 for a period of five years, while at the same time the mortality of infants of the same age in private homes for the state was only 87.4, or only about one-fifth that in institutions.

There are many factors entering into the production of this high death rate. In the first place, the institution is often at fault. Many orphanages and infant asylums are maintained as private charities, and when funds are not forthcoming the unfortunate inmates must necessarily suffer. On account of lack of funds, suitable buildings are not always available, or again, lack of funds may necessitate the use of cheap milk and food. Again, many institutions of this character do not have the proper heating facilities, and as a result premature and very delicate infants necessarily suffer. As an illustration of this I have recently seen three premature babies die in an institution depending on open grate fires as a result of letting the fires go out at night.

That improper ventilation is an important factor in determining the mortality rate of institutional infants is an undisputed fact. The majority of infant asylums are overcrowded and sufficient air space is not available. State and municipal laws, if they exist, in regard to the air space in such institutions are usually not enforced. Southworth, investigating this problem, found that the majority of pediatricians insist that institutional infants require as much air space as 'sick" or "surgical" cases, that in reality institutional babies cannot be classed as well as long as they remain in an institution; that the air space for babies should be the same as for adults. At least 1,000 feet free ventilation is desirable, and less means the beds are too close together with an increase in cross infection. As a result of overcrowding, institutional infants often develop rhinitis, pharyngitis, tonsilitis, otitis media, bronchitis, broncho-pneumonia, and gonorrheal vaginitis, the latter condition being one of the most troublesome problems in institutional management. Infants remaining long in an institution sooner or later develop one or more of the above-named diseases. Epidemics of contagious diseases are also of frequent occurrence among this class of babies. Visitors and older children, harboring the diphtheria, influenza, and other disease-producing germs, are often responsible for whole institutions becoming infected.

As an illustration of how easily an epidemic spreads in an institution , the following instance is cited: Recently in an orphanage with which I was associated a nurse was employed who had, unknown to me, just nursed two cases of measles. After being in the home a few days, she developed measles, although she claimed to have had the disease when a child. She left with the appearance of the rash. At the time of exposure there were twenty-five children in the home whose ages varied from one week to twelve years. Of this number, nineteen contracted the disease, and in addition, six children who visited the home and came in contact with the nurse. Three of the six children in the home who escaped infection had been protected by a previous attack, and three were very young infants. All these cases developing in spite of the fact that suspicious cases were isolated as soon as they developed. In this instance there were no deaths, but this is by no means the rule, as contagion plays an important role in causing a high mortality in infant asylums.

Other factors entering into the etiology of institutional morbidity and mortality are lack of trained helpers, or helpers of any kind; improperly handled and prepared food, lack of screens and inadequate protection against flies, and the presence of ignorant persons who give the small babies solid food.

In the majority of infant asylums the nursing is done by maids, who know little or nothing of infant hygiene, and, where good day nursing is to be had, the night nursing is done by ignorant maids who undo all that has been accomplished during the day. In all institutions housing infants the night nursing should be equal or superior to the day help. Otherwise, the babies will not be kept dry, the feedings will not be given on time, the room temperature will not be properly regulated, frequent accidents will occur, and unfavorable symptoms arising in any of the infants will not be noted. Unless these things are done at night as well as during the day, the mortality rate will undoubtedly be high.

Many infant asylums not having sufficient medical help depend on the matron, who usually has raised a "large family," to modify the infants' feedings. That such a procedure frequently ends disastrously is too apparent to those versed in infant feeding. The infants are usually fed according to "stock" directions, which means they either get too much or too little food, with the development of various digestive disturbances.

Again, the infants' formulas may be very carefully arranged and bad results obtained, on account of the food being prepared by slovenly maids, who have few ideas at all and none in regard to hygiene. In many infant asylums the screens are defective and the wards abound in flies. In one infant asylum I have visited there was a toilet in the diet kitchen.

In asylums sheltering mothers of illegitimate children, together with their babies, the problems that arise are very complex and the mortality is unusually high. In the majority of cases the mothers do not want their babies, and breast feeding is discontinued almost as soon as it is instituted. Again, when the infants are nursed, the mothers are given to frequent hysterical attacks, and such emotional strains are reflected in the babies by stationary or constantly losing weight. Frequently, when these infants are only a few months of age, their mothers will give them solid food, even chewing it for them. This, of course, contributes to the institution's mortality.

In many infant asylums cheap milk is used. That this is false economy was expressed by one matron, who said "it would be cheaper to buy good milk than so many coffins." Again, the majority of infant asylums are under the direction of a board of "lady managers," who in the majority of cases are at constant "outs" with the matron or medical staff, with the result that the institution is not run at its maximum efficiency. This one thing alone, I am firmly convinced, is an important factor in institutional mismanagement, and is undoubtedly a cause of some of the bad results in these babies.

In addition to the institution being at fault, the cause of a high death rate is to be found in the infants themselves. Many of them are not "well born," as is frequently the case in illegitimate babies. Lack of prenatal care and such diseases as congenital syphilis are also important factors in these cases. Lack of maternal nursing, absence of the mothers and lack of mother love; lack of exercise and lack of home environment are important contributing factors. Institutional life is monotonous and the infants are quiet and sober; they do not get the chance to move their limbs, sit up, or creep, as in the home. As a result there is a failure of appetite, and when food is taken it does not agree, consequently various types of gastro-intestinal disorders develop, and as a result a high death rate. Long resident in an infant asylum, an infant becomes marantic, resulting in what has aptly been termed "hospitalism." When they have once become marantic, very few of these cases will live long unless very energetic measures are taken to save them, and with the best and most scientific care the results in these cases are often very disappointing.

Many infants, as foundlings, brought to infant asylums have suffered many privations, as lack of food or from cold, before being brought to the institution, and as a result deaths often occur. In one case an infant two days old was admitted to an institution with which I was connected, one night in January after a hundred and fifty mile trip, wrapped only in a blanket. Of course, death promptly resulted.

The foregoing may be mentioned as a few of the factors causing a high death rate among asylum babies. To those interested in the subject the question is, How can conditions as they exist best be remedied? The plan suggested by Chapin is an excellent one, but unfortunately, except in a few instances, it is not in operation. The next best thing is to regard the infant asylums as makeshifts and hasten the adoption of these infants. Under no circumstances should they be allowed to remain long resident in any institution. The unwillingness of people to adopt very small infants, however, often prevents immediate adoption.

Another important thing in remedying present conditions is that no infant asylum should be allowed to exist whose wards and records are not open to inspection. In many institutions of this character the number of deaths, accidents, etc., are concealed from the public and even the boards of control. As an example of this, in one institution recently two children were severely burned by falling into an open fire; one was in bed for six months, which fact the superintendent diligently tried to conceal. Fear of losing a position is often the cause of many accidents, etc., occurring in these institutions being concealed.

Again, no infant asylum should depend on private subscriptions for support; otherwise, the lack of funds may often cause severe suffering on the part of the inmates. The only private orphanages that should be allowed to shelter infants are those heavily endowed and assured of a steady income. State aid should be extended to worthy institutions, but the number of infant asylums should not be multiplied, otherwise, there would be a needless increase in the number of inmates.

In all infant asylums proper attention must be paid to heat and ventilation, and state and municipal laws to this effect must be enforced. Overcrowding must not be permitted, and the number of visitors must be limited; suspicious contagious cases must be isolated to prevent epidemics. The infants must not be permitted to lie all day in their cribs without being taken up. In many cases marked improvement follows where the nurses are instructed to pick up these infants at frequent intervals during the day. Also, they must be given outings every day, either on the roof or court or yard, if there be one, the same as babies in private homes. Sufficient helpers must be kept to see that the babies are kept dry, bathed, and get their feedings on time. A medical man who is sufficiently interested in infant welfare work to make regular visits should be connected with every infant asylum. Before each of his visits the infants should be weighed and the stools saved, for only in this way can the infants 'formulas be intelligently modified. When the formula is written, it must be prepared of good, clean milk, in a diet kitchen free from dirt and flies, by a person of at least moderate intelligence. The mere fact that a matron is the mother of a family does not give her license to needlessly endanger little babies' lives by promiscuously changing their food formulas. As an example of this, an infant getting 6 ounces of evaporated milk every 24 hours was suddenly changed by a worthy matron to 15 ounces of this milk, with, of course, a very disastrous result.

Among the most difficult problems arising in the care of asylum babies is feeding, and most of the bad results in these cases are due to improper feeding. However, in spite of the most careful feeding, many of the infants lose in weight and pass to the stage of marasmus, and when once developed, institutional marasmus is one of the most difficult problems in infant feeding. Usually they are tried on various milk mixtures, with little results.

Recently, I have had twenty-five such cases who had been fed over long periods on the usual milk formulas, with first stationary and then very rapid loss in weight. They were put on malt soup feedings, with very gratifying results. In the majority, who showed greenish-white stools, the stools usually became smooth and brown in twenty-four hours, and the gain in weight was very satisfactory. These infants varied from six to fourteen months in age, with an average weight of 9.2 pounds. In none, including the oldest, was the weight more than 12 pounds.

In feeding the malt soup, both the liquid and dry preparations were tried, but the liquid variety gave the best results. All "stock" directions were disregarded, but the formulas were made as nearly alike as possible for infants of the same size and age, so as to save the dietitian undue hardship in their preparation. However, unless the formulas are adapted to the individual baby, we have violated the first principles of infant feeding. Rarely was more than two tablespoonfuls of malt soup and wheat flour used in any given feeding, and all feedings were cooked for twenty minutes.

Vomiting was not a factor in any of these cases, but close watching was necessary, and with the first appearance of diarrhoea the amount of malt soup was reduced. Out of twenty-five cases fed according to this method, the results were very satisfactory in twenty-two. Three of the infants failed to gain, and died.

The usual objection to malt soup feeding in institutions is its cost, but this should not be considered when the lives of the infants are at stake. Many of these babies will not thrive well, except on breast milk, but this in the majority of cases cannot be obtained in sufficient amounts to be of service. While no one method of artificial feeding will rectify matters, the use of malt soup, in my hands, at least, has been of distinct advantage in these, as well as a number of other similar cases. Malt soup is also useful in feeding infants who come into institutions for a short period of time.

One important point in feeding institutional babies is to treat them as individuals, and not as a class, as is so often done. Many infant asylums posses one or two milk formulas and feed the infants so much to satisfy their caloric requirements, depending on their age and weight. This method will usually give bad results. To save institutional babies, proper attention must be given to their feeding, the prevention of respiratory and contagious diseases, but above all, their stay in the institution must be only for a short while.

THE DETECTION OF FEIGNED BLINDNESS AND DEAFNESS.

By Herschell Ezell, M. D.,
Nashville.

Of the many ailments of mankind, blindness and deafness are the ones most simulated. Perhaps the reason for this is that they are the most difficult to detect. This frequently occurs with those persons who wish to be relieved of military duty or to get damages for an accident. Many more cases are encountered at present than as usual on account of compulsory military service, and one must be able to disprove their pretensions or else approve of them.

We are first led to suspect simulation of blindness by the lack of agreement between the results of the functional testing and of the objective examination, or, in other words, when an eye is alleged to be blind without presenting pathological changes of any sort, or when the tests of the individual functions, as visual acuity, field of vision and color sense, do not stand in the right relation with each other, giving contradictory results.

In many instances malingerers have studied their pretended malady and have become quite adept in their pretense. The detection of such cases can be accomplished more or less readily, according to the degree of the skill of the simulant, and likewise the knowledge and skill of the doctor.

Previous to the war, schools were conducted in many foreign cities, and more especially in Vienna, to educate ''fakers,'' familiarizing them with the many tests for the detection of malingering, misleading the doctors with the object of avoiding compulsory service. These were more or less successful in attaining their object.

It is more difficult to detect simulated blindness of both eyes than where only one is involved. In the majority of cases the complaint will be of unilateral blindness, or, more frequently, a feebleness of sight actually present in one eye is exaggerated.

In cases of alleged complete blindness of one or both eyes, we are careful to see if the pupilary reaction to light is good. If this is normal it is good ground for suspecting simulation, although rarely this is present in blindness.

Many methods have been proposed for detecting simulation, some of which are as follows:

1. In cases of simulated unilateral blindness, Schimiox Rimpler recommends this procedure:

The patient is made to look with his blind eye at his own hand, which he holds in front of him. A blind man will do this without hesitation, since he is informed of the position of his hand by the sense of feeling; a malingerer will perhaps look purposely in the wrong direction.

2. A lighted candle is brought in front of the good eye and is slowly carried toward the side of the blind eye. The pretense is detected if the patient says that he still sees the candle at the moment when it is just concealed from the sound eye by the dorsum of the nose.

Most of the tests of service in detecting unilateral blindness depend on the fact that one does not perceive with which of his two eyes he is seeing if both are kept open when the tests are made. A man could prevent detection of his pretension if both eyes were equally good and were he to quickly close one eye or the other for a moment while the sight was being tested, and one must be careful not to allow this.

3. Cuignet Test.—We make the patient read and then hold a pencil in a vertical direction between the eye and the book. If only one eye has vision, the pencil conceals certain words from it and reading is interfered with. If both eyes see, then the words concealed from one eye are visible by the other, and vice versa, and reading is carried on without difficulty.

4. A convex glass at 6 D is placed before the sound eye. In this way the eye is made artificially myopic. The eye is therefore made to read at a distance of 17 cm., but no farther. After placing the glass before the eye, we first make the patient read at quite a short distance and gradually but imperceptibly move the book farther and farther away. If it is possible for the patient to read with the book farther away than 17 cm., it proves that he has been reading with the eye alleged to be bad.

5. Graefe and Bondry Test.—We pretend to be interested in the sound eye only. Take a strong prism with base up, and, first holding it in front of the cheek, push it gradually up in front of the eye. Before the base has reached the center of the pupil, the eye will see double, a fact the patient will readily admit, since it is only the sound eye concerned in the matter. Now the prism is imperceptibly pushed along until it covers the entire pupil and the eye which is covered with the prism has only one single retinal image, which is thrown upon a higher point of the retina than is the case with the other eye. If there is still double vision, it is proof that both eyes see. If we use the test types and require the patient to read the lowest row on sometimes the upper and then the lower chart, we will determine the vision

of each eye without the patient being aware of it.

6. Snellen's Test.—The test types are alternately red and green. Before the patient is allowed to read it, a pair of spectacles is put upon him with one red and one green glass. Through the red glass the red letters only can be seen and through the green glass only green letters, for red is the complimentary color of green, and vice versa. If one eye is blind he will read off only the red or only the green letters, according to the glass placed over the good eye. If the patient sees both red and green letters, it proves that he sees with both eyes.

7. Test for Binocular Blindness.—Priestly Smith.—Place a lighted candle in front of the patient; now hold a 6 deg. prism base out before one eye; if both eyes see, the one behind the prism will mov inward, and on removing the prism will move outward, the other eye remaining fixed.

DEAFNESS.

Simulated deafness, like simulated blindness, is chiefly met with in cases of impostors seeking to get exemption from army service or to get indemnity on account of pretended injury. There is no absolutely reliable test for feigned deafness, and all are made the less reliable the more clever the malingerer. The following are among the tests employed:

Simulated bilateral deafness is difficult to detect if the individual refuses to give evidence of any hearing power. To disprove this it is important to catch the patient off his guard. Making ugly remarks to a third party in the individual's presence might cause a change in his facial expression and determine that he can hear.

As a rule it is the unilateral type that is complained of, and with which the physician has to deal.

1. A vibrating tuning fork is held to the mid-line of the skull in any case where the lesion is confined to the sound conducting apparatus. The malingerer states that he hears with the good ear when, of course, the sound will be referred to the side of the lesion.

2. The patient's hearing is tested through a rubber tube dividing terminally into two smaller tubes, one for each ear. He is asked with which ear whispered words are heard. If the tube communicating with the sound ear is severed or blocked, and he claims that the words are heard only by this ear, it is proof that the deafness complained of is not real.

3. In cases of partial deafness, make repeated tests with the watch and with whispered words. The malingerer's memory soon fails him and his conflicting statements will show that his answers cannot be depended upon.

4. Blindfold the suspect and, standing behind him, alternately test the two ears rapidly with forks. This frequently confuses the malingerer and brings forth conflicting and contradictory answers.

5. As a last resort, the caloric test should be made of the presumably deaf ear. During the period of vertigo incident to the reaction, it may be easy to determine that the deafness is pretended.

Although possible, it is not likely that all of the tests will fail to detect the worst malingerer. Should they fail, however, the patient should be kept under surveillance and if necessary re-examined.

KAISERISM AND THE MEDICAL PROFESSION.

William F. Clary, Capt., M. R. C.
Memphis.

Our profession was founded, and has been maintained by its warfare against diseases. With pride we point to the victories over diphtheria, yellow fever, malaria and a number of other diseases and honor the memory of those heroes who did such valiant service to mankind. The time has come when we are face to face with the most serious mental disease the world has ever known. It has possession of the entire German empire, and by means of carriers, or better known to the laity as propagandists, it has permeated every country on the globe. This malady to which I refer is known as "Kaiserism." The medical profession is called upon to do its

---

President's address, read before the West Tennessee Medical and Surgical Association, at Jackson, May, 1918.

share, and lend all its aid to our government in stamping out this plague.

The etiology of Kaiserism is the egotism and paranoiac idea of the Hohenzollern family, nurtured through several generations. The crisis of this disease was brought about by the personal characteristics and military ambition of William II of Germany.

The germs of this disease are implanted in the minds of every German child by its parents, and through their school days nourished by government-paid teachers and preachers, so to none is there any escape. Their worship and fear of the Kaiser is supreme. The Kaiser admits with pride that from childhood he has been influenced by Alexander the Great, Julius Caesar, Frederic the Great, and Napoleon. This hero worship has led him to think that he is greater than them all and an equal of God. All of these were great leaders of men, and being in command of vast armies, each has tried his luck at conquest of the world. Each led thousands to their deaths and failed in his dream of world conquest. Even before this world war began, the Kaiser is said to have declared publicly: ''I have dreamed a dream of German world empire, and my mailed fist shall succeed.'' But let him remember that history repeats itself, and what has befallen his heroes is certainly awaiting him. Our profession stands ready to do our utmost in this struggle for world democracy.

Kaiserism is essentially a chronic mental disease, the diagnosis of which has been properly made by all nations of the earth. The treatment must necessarily, as in all chronic cases, extend over a long period of time. A most thorough treatment is being applied by the British empire, by France, Italy and the United States. It may take five, or even ten million men from our country. It is very evident that all the branches of the service are being rapidly increased. The demand now for a Reserve Medical Corps is more urgent than it has ever been.

The Journal of the American Medical Association gives us each week the personnel of the Medical Department of the Army. In the issue of May 11 the Medical Reserve Corps has enrolled 18,773 medical officers, of which 16,552 were on duty, having a reserve of only 2,221.

I don't think the fear of bullets or submarines deters any physician from enlisting, but, as I see it, there are three stumbling blocks in his way: (1) His duty to his family; (2) some physical disability which makes him think he could not withstand the hardships; (3) selfishness. By selfishness, I mean that he sees a great opportunity to increase his practice and make more money than he has ever done at the expense of those who have left their communities to do a patriotic service for their country. In this class of profiteers, I believe that West Tennessee has exceedingly few. West Tennessee has performer her patriotic duty nobly up to the present time. Each month her duties and sacrifices will be increasing, and each month she will rise to the occasion.

A year ago the physician who volunteered for the M. R. C. did so under circumstances quite different from what we find today. Constructive legislation has made this question easier, and the sacrifice far less. Congress has provided for dependents, for insurance and compensation, for increased pay on foreign service, for commutation for quarters, heat and light, for a moratorium on debts and leases of officers in the service, and for reconstruction and re-education of the injured and disabled. Expense of equipment may have deterred some. Now he may get his equipment from the quartermaster's department. These provisions having been made, the married man can now view his responsibility to his government at exactly the same angle as the single man.

The Surgeon-General is very anxious to have 12,000 more physicians enrolled in the M. R. C. this year—5,000 of these by the first of July—and is depending on the Council of National Defense to get them. The Council has carefully considered the number of doctors in each state and has portioned out to each state committee its proper quota, and Tennessee's quota is 246, in addition to the 479 she has already furnished. The state committee has figured out just how many should come from each county in the state. If you have not already received an urgent call from them, you will. So many doctors have expressed their willingness to serve their country when the call comes that there should be no difficulty for Tennessee to furnish 246 doctors for the M. R. C. by July 1. Shelby county must furnish 32, Madison county 2, etc.

I must impress on you, as was so well shown by Major Smythe at the state meeting in Memphis, that your willingness to serve your government expressed in words on the street or at public gatherings or privately to your patrons, means absolutely nothing until you have been examined, issued a commission and accepted the same by taking the oath of office and notifying the Adjutant-General at Washington. Not until then has your willingness amounted to a hill of beans.

In warfare of the present day the services of the physician and surgeon are indispensable. Their responsibility is stupendous in caring for the men and keeping them in a fit condition, as well as promptly attending them after an engagement. For our army to have a well organized, thoroughly qualified M. R. C., is paramount. The Surgeon-General is entitled to have a history of every qualified physician in the United States on file in his office for ready reference, that he may make appropriate selection of officers to fill any vacancies.

The transition of a civilian doctor to an army officer cannot be made by simply accepting a commission and putting on a uniform. The army officer must spend some time in learning army regulations, paper work and drill regulations. Our government acted most wisely when it established the training camps for the officers. The enthusiasm with which the men take to this work is nothing short of marvelous. The doctor who has been accustomed to get up, shave, take his bath and have breakfast at 8 or 9 a. m., then go about his work leisurely, meet his fellow practitioner in consultation at whatever hour suits him, or be an hour or so late at such meeting, is now learning a lesson of punctuality which will be of value even after the close of the war.

It is very likely that the Federal government will from now on exert more influence on the practice of medicine and surgery than it has ever done. In the near future it would not surprise me if a government license would be required of eevry physician practicing medicine or surgery within the United States. The government, by establishing great medical schools like Fort Oglethorpe, Ga., with large general hospitals attached, will make it possible for the medical profession to take frequent courses along military and professional lines, and an up-to-date reserve corps may be maintained for all future needs of our country.

In the present crisis of raising a reserve corps, let not Tennessee, the proud Volunteer State, fall short of her duty, and may she be recognized as a great factor in blottng out Kaiserism and making this country safe to live in.

When the medical history of this association shall have been written, may the pages show that our profession stood solidly behind the most learned statesman, the most adroit of diplomats, and the greatest President this country has ever produced.

The association is making history, for we have but to look around and see many faces "conspicuous for their absence!" The majority of these are now in the service of our country. Many are doing valiant service in France at the present time. Our worthy assistant secretary, Capt. George McSwain, Major Malone, Capt. McGehee, and dozens of others, who are members of this association, are in France performing their duty to humanity and to their country. Who of us is not proud that they are Tennesseans, and members of the West Tennessee Medical and Surgical Association?

FURUNCULOSIS AND ITS TREATMENT, ESPECIALLY BY MEANS OF YEAST.

Skillern, in his comprehensive article, "The Rational Treatment of Furuncles" (Jour. A. M. A., Sept. 16, 1911, Vol. LVII, No. 12), gives us a general picture of the pathology of the furuncle, and then goes on to describe in detail the treatment. He states that a furuncle, as described by Da Costa, is "an acute and circumscribed inflammation of the deep layer of the true skin, and the subcutaneous tissue following bacterial infection of a hair-follicle or a sebaceous gland." The causative organism, he states, is usually staphylococcus aureus. The organisms burrow down into the hair-follicle, and, invading the adjacent sebaceous gland, excite the surrounding subcutaneous tissue to inflammatory defensive reaction. Congestion, local collection of leucocytosis, swelling of the neighboring lymph-nodes, fever and malaise follow in more or less rapid succession, associated with ulceration of the skin near the hair-follicle, liquefaction necrosis of the follicle and the surrounding tissue, and final escape of sero-pus and a white slough; this entruding of the slough occurs, when the furuncle has been left to nature, about the seventh day after the onset of the local symptoms.

Skillern recommends as surgical treatment suction of the individual boil by means of a Bier's vacuum cup (but not squeezing with the operator's fingers, which only produces undue trauma) and the keeping of the parts moist by the use of a one per cent solution of sodium citrate in normal saline solution on sterile gauze. The gauze should be renewed every four hours and kept under waxed paper or oiled silk. The neighboring skin should be protected by a suitable ointment.

If the furuncle is seen early enough, attempts may be made to abort it by the swabbing of its center as deeply as possible with carbolic acid on the cotton of an appropriate applicator; or several drops of liquefied phenol may be injected right at the base of the furuncle. Only if the patient presents himself for treatment when there is well-marked softening and fluctuation of the tissues resulting from a boil should an incision be made. Otherwise, the knife should be withheld (except, perhaps, to excise the boil in certain cases) on the ground that it does not shorten the process of repair, interferes with the good work of the serum, and the defensive leucocytes, and leaves an unnecessary scar. The author does not employ flaxseed poultices, because they devitalize the tissue and leave unsightly scars. The use of corrosive sublimate solution for combatting furuncles is condemned on the ground that it lowers the resistance of the tissues and does not penetrate to the depth of the wound.

Medically, sodium citrate is employed internally in doses of 15 grains three times a day, after meals, both for its alkaline action on the blood and for its diuretic action on the kidneys. Occasionally, too, thiosinamine is given in doses of one and a half grains three times a day to hasten the subsidence of the enlarged lymph nodes.

Antistaphylococcic serum may be injected near the infected area twice a week to promote passive immunity or active immunization is carried on by the well-known vaccine treatment. Skillern uses a stock vaccine, or preferably an autogenous vaccine, made of 400,000,000 killed bacteria per C. C.3 of salt solution. Of this latter an initial dose of 0.25 C. C.3 is given, and injections are given at weekly intervals, the doses increasing until 2.5 C. C.3 are administered at one time.

It is especially on the reoccurrence of boils or of crops of boils (furunculosis) that these injections become necessary. Skillern states that "the next best treatment of recurrent furunculosis is by yeast (Saccharomyces albicans), which stimulates phagocytosis and liberates carbonic acid, thus recalling John Hunter's recommendation of carbonate of sodium for boils. While brewer's yeast (oberhefe) is inelegant pharmaceutically, is a nauseating substance, and is hard to keep and to handle, yet it has strong advocates. I have seen furunculosis checked by the use of nuclein in the assimilable form of compressed tablets."

In a subsequent article (New York Medical Journal, Dec. 19, 1914, p. 1218), Skillern lays stress on a proper diet in the prophylaxsis and treatment. He quotes Francis, a British author, who states that "I have known cases where abstention from eggs has resulted within a fortnight in freedom from boils, crops of which had previously succeeded one another without a break." Skillern had evidently found that there was no one ideal medical treatment of furuncles, infallible in every cases, for he recommends very highly sulphurous acid in teaspoonful doses in water, three times a day after meals. He had treated a long series of cases in this manner without any recurrence of boils. His experience with sulphurous acid was the outcome of his knowledge that sulphur in some form had long been of use in the treatment of furunculosis, either as the powder, or as calcium sulphide or in the form of sulphuric acid.

Whatever the results of treatment of furunculosis by other methods have been, it is probable that they **have not** surpassed those o Hawk and collaborators, who, in an article entitled "The Use of Bakers' Yeast in Diseases of the Skin and of the Gastro-Intestinal Tract" (Jr. A. M. A., Vol. LXIX, No. 15, October 13, 1917), publish the result of their treatment of furunculosis and other skin ditions with compressed yeast (Fleischmann's). The use of fresh baker's yeast brought about an improvement or cure in sixteen of seventeen cases of furunculosis, as well as in a cases of folliculitis, and in other skin conditions. The cases were followed up weeks to months, after cessation of treatment, without recurrence of furunculosis. One of the cases had previously been treated with vaccines. Fleischmann's compressed yeast may be taken in water, beef tea or orange juice, and there is no reason why it could not be administered spread on bread. The doses usually administered were one-half to one cake three times daily. Some of these patients had been suffering with boils for a long period of time. Usually the cases were cured or boils considerably improved within two weeks after the administration of the first dose. Sometimes, because of gas formation in the gastro-intestinal tract, it was necessary to kill the yeast cells just before administration by immersing the cake for a few minutes in boiling water.

Hawk concludes that "baker's yeast was found to be a useful remedy in the treatment of furunculosis, acne vuulgaris, acne rosacea, constipation, and in certain other cutaneous and gastro-intestinal conditions," and that "we consider that yeast is fully as successful as any other remedy in furunculosis, acne vulgaris, and acne rosacea."

Numerous investigators before Hawk had attested to the beneficial effects of yeast in furunculosis. Among these was Brocq (Presse med., Jan. 28, 1899, p. 45), who, among other cases, treated himself with it for furunculosis. Brocq was preceded in his use of it by, among others, Lassar ,Semaine Medicale, 1899, p. 56), who (Ref. in Deutsche med. Wochenschrift, 1906, p. 1906) had used it successfully in the treatment of thirty cases of furunculosis. He obtained good success with it in the furunculosis of diabetics.

The yeast employed by Lassar and by Brocq was the ordinary yeast of the breweries. Brocq himself, in another article Jour. Med. et Chir. Pratique, 1900, p. 898), acknowledged that the action of brewers' yeast was not uniform, different samples varying very much in action.

Other good results from the use of yeast in furunculosis are reported by several observers. Among these are Hedrich (Deutsche Aerzte Zeitung, 1904), Domenico Zentralbl, f. Stoffwechsel und Verd. Krauk, 1905), Boltenstern (Deutsche Aerzte Zeitung, 1907), Kabisch (Deutsche Aerzte Zeitung, 1909) and Nizzoli (Gazzetta degli ospedali e della cliniche, May 4, 1909. the last of whom used it with success in furunculosis of the external auditory canal. Dreuw (Monatsh, f. prakt. Dermat, V. 52, 1911), used yeast incorporated in soap, externally, with god results. Many of these investigators used brewers' yeast, although dried yeast was also employed. Paschkin (Wiener klin. Wochenschrift, 1902, p. 791) employed various preparations of yeast in twenty cases of furunculosis, acne, and folliculitis. He has a good word to say for bakers' yeast, stating that it is fresh, cheap, sufficiently pure, and does not possess a disagreeable odor or taste. On the other hand, brewers' yeast is not readily obtainable, does not keep well, and has a disagreeable odor and taste.

Brewers' yeast was recommended to American dermatologists by Crocker. Following his example, its use is advocated in text-books with almost monotonous uniformity. Crocker recommended "fresh yeast, half a wineglassful to be taken, night and morning, or a less quantity more frequently." This author makes an interesting historical remark with reference to yeast that we cannot forbear quoting: "Brocq, evidently unaware of its being so well known and used in England, rediscovered it in 1894 as a cure for boils, and strongly advocates its use. He says that no publication between 1852 and 1894 occurs about it, whereas it is mentioned in the above terms in my first edition in 1888, and was then 'as old as the hills.'" (Crocker, Diseases of the Skin, 1903, p. 258. Footnote.)

Jackson (The Ready Reference Handbook of Diseases of the Skin, 1808, p. 332) writes as follows: "Yeast is a homely but sometimes efficient remedy (in furunculosis), either a half wineglassful being taken night and morning, or a like quantity in divided doses, or one of Fleischmann's yeast cakes being eaten during the day.''

English, German and French authors also recognize the value of yeast. Walsh (1913) recommends the use of yeast and its preparations in furunculosis and in acne vulgaris. Among the Germans, Finger (1913) advocates the various yeast preparations. Yeast is well recommended throughout the textbook literature in the treatment of furunculosis. Chatelain (1910) uses bakers' yeast instead of brewers' yeast in the treatment of inammatory acne without noting any decided difference in the effect.

In the skin conditions known to the French as pyodermites (including furunculosis, carbuncle and hidrosadenite), Darier (1909) recommends yeast. He also advocates it in impetigo.

The vaccine treatment of furunculosis is not always successful, although it is based on rational principles, and has ardent advocates. In this connection we may mention that one of the numerous ways yeast is supposed to act therapeutically is by its favorable action on the opsonic index. The U. S. Dispensatory cites Walzou and Sacharow as having injected yeast into dogs and having noted a subsequent rise of the opsonius against streptococci and staphylococci; Huggard and Moreland (Lancet, part 1, June 3, 1905, p. 1493) employed it clinically ic ases of tuberculosis and noted a considerable rise in the opsonic index, presumably against the tubercle bacillus.

One of the latest editions of American textbooks (Pusey, 1917) has this to say about the vaccine treatment of furunculosis: ''Since Wright's original suggestion there has been the widest use of vaccines in the treatment of furuncles, as in other forms of pus infection. I have very little confidence in the method. Certainly it fails in a great many cases.'' In the vaccine treatment, the best results have been obtained from the use of autogenous vaccines. It must be remembered that means for making these are not always at hand.

Yeast has been found valuable in the furunculosis of diabetes; in fact, it has been used as a remedy in diabetes itself. It has also been used in the infectious diseases, as well as in the furunculosis that follows such diseases as typhoid fever. Schamberg (1915), using brewers' yeast, was not able to ascribe to it a good effect in the furunculosis accompanying variola, although he advocates it in cases of ordinary furunculosis.

One of the beneficial influences that yeast may exercise in furunculosis is the influence on the constipation that may accompany it.

DIABETES.

N. W. Janney, New York (Journal A. M. A., May 4, 1918), says that the profession at large has failed to profit by the recent advances made in regard to the treatment of diabetes, and it is only carried on successfully by a few physicians who have the help of a specially modified institutional system. His purpose in this article is to describe the general principles of practical importance in the management of this difficult disease. It cannot be too forcibly emphasized that the only danger-free existence for the average diabetic is one with a sugar-free diet. Allowing the patients more food than is necessary is always inadvisable, and it must be remembered that protein and fat, in excess, as well as carbohydrates, may cause lowering of the tolerance and eventually glycosuria and acidosis; ''diabetic foods'' containing large amounts of protein are inadvisable, and the oatmeal cure, still used by some, should be restricted to certain special cases. The sudden change from an unrestricted diet to one of limited carbohydrates is a dangerous practice and brings an outbreak of coma as its result. Fasting resembles digitalis but is an excellent remedy only in skilled hands. The object in the treatment of diabetes is to render the urine sugar free by fasting or by the employment of low caloric diets. The importance of good hygiene is often neglected. Daily exercise in the open air should be prescribed for all except the very feeble, and mental worr yand strain should be excluded as muc has possible. Fresh air at work and during sleep, a rest in the middle of the day, and a change to a more hygienic occupation are other measures. There are two types of diabetics, first the light, uncomplicated cases

—those showing only a few grams of sugar in the urine and only slight clinical symptoms; second, the severe, long-standing, complicated and acidosis cases; also cases with infection and cases in the obese and elderly. He gives tables of diets according to Joslin, and says that for the light cases a simplified diet corresponding as nearly as possible to the patient's original diet, is advisable. The patient is directed to weigh or measure all articles of his diet for the first few days of treatment. He is instructed how to use Benedict's test on a twenty-four-hour specimen or large mixed sample of urine. The physicians can, from the facts thus obtained, estimate the approximate amount of the carbohydrates and other articles of diet, and greater accuracy on his part is advised. He can then calculate the new diet for the patient. For light cases, this prescription should contain only about one-half to two-thirds of the amount of carbohydrate previously taken. The new diet is specified and the foods allowed are enumerated. The patient should become sugar-free within one week on the new diet. He may become sugar free by limiting the carbohydrate food without weighing, but to this procedure there are various objections, as dietic accuracy is of fundamental importance. Instructions are given as to the reduction or omission of the various foods, carbohydrates, proteins and fats, and after the urine has been free for two days, a series of diabetic diets, and instructions as to their use, are given. Acidosis is the principal danger in the severe cases. The tests recommended for the detection and stimation of the degree of acidosis ar three in number: (1) the ferri-chlorid test for diacetic acid; (2) the sodium nitro-prussid test for acetone, and (3) the Marriott quantitative method for the determination of the alveolar carbon dioxid. The relative merits of these tests are stated for the purposes indicated. The early recognition of impending coma is of the utmost importance. The use of the alkalis, the author thinks, can best be discussed after the ultimate cause of diabetic coma is elucidated. Much information is obtained by a study of the diabetic blood, which should be undertaken whenever possible. Other complications are nephritis, the possibility of skin injuries which should be avoided, pruritis vulvae, furuncles, diabetic gangrene, sepsis. Watchfulness during pregnancy is recommended. In conclusion, he mentions the frequency of diabetes in children, the life of whom, however, is being increasingly prolonged by modern treatment.

METALLIC MERCURY IN THE TISSUES.

J. A. Kolmer and E. V. Mastin, Philadelphia (Journal A. M. A., May 4, 1918), report a case of considerable interest in view of the finding at necropsy numerous globules of metallic mercury in the tissues of an aneurysm of the aorta, and the eroded vertebrae of the spinal column. The metal could be easily expressed from the tissues and collected into larger globules in the concavity of the aneurysm and eroded tissues. Unfortunately, the patient could give no adequate medital history of himself nor the names and addresses of some of his physicians. Data of the amount of mercury he had been taking could not be obtained, but as he had been treated for syphilis, there can be little doubt of its administration.

POLYURIA.

Jacob Rosenbloom, Pittsburgh (Journal A. M. A., May 4, 1918), reports a case of diabetes insipidus cured or relieved by treatment with pituitary extract. The condition had been present for nine years, and, therefore, was considered cystic rather than malignant. The presence of the hemianopsis revealed the fact that there was pressure on the optic tracts. The sella turcica was normal, as shown by the roentgen ray. Thyroid tablets were ineffective.

WANTED—Assistant physician, draft exempt, in a private institution for mental and nervous diseases, located in Tennessee. Rather prefer a married man if without children. A woman physician would be acceptable. Must be capable of instructing nurses in training. $1,200 per year. Address care this journal.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

AUGUST, 1919

EDITORIALS

EVERY MAN IN THE M. R. C.

The Nashville Symposium is a medical club with twenty-three active members. Every member of the Symposium is an active member of the Nashville Academy of Medicine and Davidson County Medical Society, and of the Tennessee State Medical Association, several of them having been officers of the Academy and having served in responsible places in the state organization. They are all constant attendants upon the meetings of their local society, and most of them will always be found at the annual meetings of the State Association. One of the purposes of the Symposium is to fit its members for being better able to participate in the scientific deliberations of the regular medical societies to which they belong. That this purpose has been successfully accomplished is witnessed by the fact that in their participation in scientific discussions and in the papers which they themselves present the young men of the Symposium always have acquitted themselves creditably.

The spirit of the members of the Nashville Symposium and their interest in medical affairs is shown by their earnest and unflagging zeal in the work of our medical organizations, as is their determination to make themselves proficient in the practice of their profession. It is further shown, as is their unqualified patriotism, in the fact that *every man* of the twenty-three active members of the Nashville Symposium holds a commission in the Medical Reserve Corps or in the Regular Medical Corps of the United States Army. All honor to this group of Nashville's younger physicians! May their opportunities for real service to our soldiers be commensurate with their willingness to serve and their ability and their patriotic fervor, and, when the Hun has been subjugated, may they every one come back to take up again the professional careers which they have so well begun and carry on to that distinction and success which their loyal devotion to their profession and their country entitle them to reach.

It is with great pleasure that we present here the names of the members of the Nashville Symposium who have so nobly responded to the call of their country in its hour of need:

Drs. G. F. Aycock, C. F. Anderson, H. K. Alexander, R. R. Brown, O. N. Bryan, J. W. Caldwell, S. C. Cowan, L. W. Edwards, E. M. Fuqua, R. L. Jones, W. G. Kennon, J. Howard King, John M. Lee, J. Owsley Manier, E. S. Maxwell, T. D. McKinney, Eugene Orr, D. R. Pickens, H. H. Shoulders, Milton Tharp, W. B. Ward, G. C. Williamson, Jack Witherspoon.

WHEN THEY COME BACK.

They are going to look about one foot taller than when they went away, those fellows of ours who have been "over there," and their apparent increase in stature is going to be mighty close to real in the eyes of the stay-at-homes who should have gone.

They are going to be the men to be looked up to, the leaders in big movements and the holders of public confidence.

They are coming back with a new viewpoint, with a seasoning and a settling which will have come to them through the great experience of great service to humanity. Their hearts and their heads are going to be full of the right kind of sentiment and the right kind of sense through the exercise of which they will arrive at just and reasonable decisions.

They are going to assume the burdens of citizenship and of professional life with the determination to shape public sentiment and professional sentiment in a manner favorable to the making safe of this old world for democracy.

And woe be to him who stands in their way, for he is sure to be dashed to the ground by the great wave of popular support that is going to be given them who have been to the front where the battles for human rights have been waged.

Some of us are going to look mighty small when *they* come back—are going to look small to ourselves, to the general public and to them who have been over there. Those who are going to look next smallest of all are they who ought to go and will not even ask for commissions. The very smallest of all will be those who have asked for commissions and have received them, but are playing with them, holding back acceptances. And the infinitesimal smallest, who will not be seen at all because of their smallness, are the few, if any there be, who have commissions accepted, but have given no service under them.

There's going to be a new adjustment when they come back. And there ought to be.

ORGANIZATION NECESSARY.

The early successes of the German arms were due to preparedness and organization for war. The late successes of the Allies have been due to better preparedness and organization. As the war progresses, the organization of the Allied forces will be better perfected, and this is what is going to win in the end. Germany organized long years ago and maintained and strengthened her organization. Each of the Allies has had organization at some time, but, except for France, each allowed the forces and resources of organized military power to dwindle and separate. When the great crisis developed, it was found possible to reorganize, but valuable time was lost, the expense incident to mobilization and training and the drawing of plans was tremendous, great areas of territory were yielded up to the invader, and hundreds of lives were lost which might have been saved.

If medical organization is not perfected and maintained in Tennessee, the forces that are opposed to all that we stand for are going to overwhelm us, temporarily at least, for they, like the Huns, have been organized a long time and are keeping their machine in first-class running order. It may be that we can "come back" and reorganize and finally win, but time will be lost, high ground that has been gained and held at great cost will be yielded up and will have to be retaken, the cost of mobilization and of perfecting and prosecuting plans will be considerable, and human lives will be lost through the operations of the quacks and dollar seekers of various kinds who prey upon the sick and afflicted. And if we do not hold the ground that has been won through organization, those of our fellows who left us here to do our part at home will feel that we have been recreant, when they come back from "over there."

It is the high duty of every decent physician in this state to put himself into his medical society and to do everything that is possible for him to do to keep medical organization alive and moving. It is shameful that so many of our county societies are being allowed to slip back into inactivity and uselessness. We owe it to our profession here, and that part of it at the front, we owe it to our people in our own state, and we owe it to humanity to keep up our part in the fight for the progress of science and for the advancement of all high ideals.

FROM THE PRESIDENT OF THE A. M. A.

In the following letter from Dr. Arthur Dean Bevan, president of the American Medical Association, the plans of the national body for organizing the profession of the United States for war are somewhat fully set out. Our own state has been rather minutely surveyed and the data relative to our medical population has been in hand for many months. It is well enough, however, for a resurvey to be made, and for this to be done by some one outside the state. We welcome, therefore, any movement by authorized agencies which will add to the knowledge already in hand concerning the possibilities for a larger service upon the part of our state in the war.

Chicago, July 24, 1918.

Dr. Olin West, Secretary,
Tenn. State Medical Ass'n.,
601 Cedar Street,
Nashville, Tenn.

My Dear Doctor West:

The medical profession of the country is confronted at this time with the problem of organizing the profession for war. There are two specific things that must be done. We must furnish to the Government the necessary number of medical men for military service; this probably will be from thirty to forty thousand medical officers. At the same time we must supply this required number of medical officers in such a way as to injure as little as possible our civilian communities through depriving them of necessary medical services. This carries with it the obligation not to cripple seriously the medical schools nor our hospitals.

In order to meet these requirements it is necessary to use the organization of the medical profession in a systematic way. The most important agency that can be employed in this work is the American Medical Association, with its splendid organization of county and state branches, and the efficient machinery which it possesses.

The Journal of the Association reaches the great majority of the medical practitioners of the country, and it, together with the journals of the state medical associations, provides a point of contact with practically the entire profession.

One of the facilities of the Association which could not be duplicated even by the Government itself, at unlimited expense, within any reasonable time, is the data from which is compiled the register of licensed physicians —the American Medical Directory. This is information concerning each licensed physician which has been gradually and systematically assembled, recorded and indexed in the course of years, at the headquarters of the Association.

These card indexes of this data concerning registered practitioners of medicine at the Association headquarters are of great value. They made possible the "survey" of the medical profession of the United States, which was published in The Journal for June 1, and which is, therefore, now at the disposal of each county and state organization. They can be utilized in conducting a campaign for providing future increments for the Medical Reserve Corps by making an individual study of the practitioners in each county, to determine the physicians who have gone into military service, the ages of physicians, and other information which will assist in working out the problem.

The medical profession has responded more promptly to the call of the nation and has sent more of its membership into military service than any other profession, trade or business in the country. It was necessary that they should do this, because the demand for medical men in war is larger than the demand made upon any other profession. The fact remains, however, that the profession has responded magnificently to the call to the colors. As the war continues and as the great military machine which is being built by the people of this country becomes greater and greater, it may become necessary to draft the medical profession up to 50 or 55 years of age, but this will not be done and should not be done unless the draft applies to all professions, to all trades, to men in all of the fields of human effort. It is probable—in fact, it is almost certain—that the medical profession will be able to supply the necessary number of men by proper utilization of the organization and machinery of the American Medical Association and its component county and constituent state medical organizations without resort to draft.

With that end in view, I am writing to you and to all the presidents and secretaries of the constituent state medical associations and asking that the county medical societies of their state be organized for the purpose of accomplishing the following results:

1. To secure at least 20 per cent of the registered practitioners of the state for the medical department of the Army and Navy.

2. In securing these men, a careful survey of each county, each medical school and each hospital should be made. No locality and no institution, unless it is clearly oversupplied, should be allowed to furnish more than 50 per cent of its licensed practitioners. The association will endeavor to co-operate with the medical departments of the Government in securing the necessary protection to communities, hospitals and medical schools.

3. Although it is desirable to secure at least 20 per cent from each county, care should be taken to analyze the local conditions, the area of the county, the population of the county, the number of practitioners per capita in the county and as a general proposition I suggest

that at least one physician be retained at home for each 1200 or 1500 population.

As you know, the Surgeon-General of the Army has recently called for 5000 men (see The Journal of the American Medical Association for April 13, 1918), and the Surgeon-General of the Navy needs from 1,000 to 2,000 men. The plan which I am outlining to you will secure the number of men asked for to the present time. If it becomes necessary to call a larger number, it will of course be necessary to increase the percentage furnished by each state, possibly to 25 per cent, instead of the present 20 per cent. It will be desirable for you to organize your state so completely and thoroughly that if a further call comes from the Government this can be promptly met.

As president of the American Medical Association, I am asking you to use the machinery and organization of your state and county societies in the most efficient and earnest way for a definite, concrete purpose which I have outlined. It is clearly the duty of the American Medical Association and its organization and machinery in the fullest possible way to meet the requirements; we all welcome the assistance and co-operation of all associations and agencies that may prove of service in securing the desired results. In doing our part in the organization of the medical profession for war, we gladly place directly at the disposal of the medical departments of the Army and Navy our entire organization and machinery.

The American Medical Association is now preparing and will shortly make available to the secretaries of the state associations and of the county societies complete lists of the licensed physicians in the respective states and counties. On these lists symbols will be entered indicating the response which the physicians named have made to the call of the nation.

This work is in charge of the secretary of the American Medical Association, who will communicate directly with the secretary of the state and, if desired, with the county organizations.

Yours very truly,

Arthur Dean Bevan,
President.

ONE-HALF MILLION OPERATIONS FREE.

One-half million operations free is the achievement of the Preparedness League of American Dentists, an organization comprising more than 15,000 dentists in the United States. They have pledged themselves to give at least one hour of their time daily, including materials, to men selected for the army, navy and marine corps. The half million mark was reached early in July.

The Preparedness League, started by Dr. J. W. Beach, of Buffalo, President of the League, is under the direction of Director-General Dr. Charles F. Ash, New York, and is being carried on with the approval and co-operation of the Provost Marshal General and the Surgeon-Generals of the Army and the Navy. Dental colleges throughout the country are contributing their services, equipment and materials to help in the work.

According to the present law, only one dentist is allotted to every 1,000 men in the army. The League is supplementing this work of making recruits dentally fit by making not only filling and extractions, but by supplying thousands of crowns and bridges free of charge. In this way many thousands of men who had less than the minimum dental requirements to fit them for general military service are able to be inducted into the service.

It has been estimated that if the mouths of American soldiers be kept clean from diseased teeth, 20 per cent of the men in hospitals because of dental infectons will be available for service in the trenches, and the 20 per cent of extra beds will be avalaible for men wounded in war. Thus, according to the League, not only will the efficiency of the army be increased, but its morale, whereas the Government will save the hospital expense whch these men would incur.

Statistics from hospitals at the front, announces the League, show that 20 per cent of the men in the sick wards are there because of diseases arising from infections from diseased teeth.

The League has estimated that on the basis of an eight-hour day, the average dentist of the organzation gives 12 per cent of his income to his country, plus his materials, besides the many civilian contributions which he makes to patriotic campaigns. Some dentists give two and three hours' time daily.

There are 48,664 dentists in the United States, and the League is trying to obtain 100 per cent membership at $1 a year. The only expense is for the distribution of literature and correspondence, which, it has been figured out, brings the cost of operation to an average of five cents an operation.

The League is divided into six military departments, headed by a director for each department. Each of these directorates in turn is subdivided and managed by a director for each state, under whom are sub-directors for cities and counties. Most of the energies of the League will be devoted to men qualified for military service.

"These are the men," explained Dr. Ash, "who will do the actual fighting and who must live in the trenches, and who consequently are more subject to sickness and infection. The most important thing to do for these men is to rid their mouths of bad roots and infected teeth, or any tooth having a history of periodical abscess. The lack of the minimum number of teeth does not excuse any man from military service, but only from general military service! The man may be accepted for 'limited military service' even if he has no teeth.

"In all the states, dentists have been appointed members of the medical boards, thus enabling co-operation of physicans and dentsts. On every local board in the United States, dentists who have volunteered their services have been appointed. It is the duty of these men to examine the mouths and teeth of the registrants and send those certified for general military service to members of the Preparedness League, who are prepared to give them free dental service.

"It is inevitable some men will have been sent to camp as certified for Class 1-A who should have been certified for special or limited military service. When such a man is re-examined and sent back from camp, it means expense to the Government and embarrassment to the local board. The principal thing the Government is anxious to guard against is injustice to the registrant. Thus if the recruit's teeth are examined thoroughly by the dental representative on the local board, the possibility of passing men who have less than the minimum dental requirements will be appreciably reduced."

TENNESSEE PHYSICIANS IN THE ARMY AND NAVY MEDICAL SERVICES.

The following list ocntains the names of all Tennessee physicians, as far as The Journal has been able to get these names, who have been recommended for commissions in the medical services of the Army and Navy. It is undoubtedly true that a few names are missing which should appear, but the effort has been to get them all in. If our readers will advise us of omissions, these will be printed in the next issue of The Journal.

HONOR ROLL.

Anderson County.

Andersonville— Fred Oscar Stone. Coal Creek—Carl Ralph Martin. Wind Rock—M. L. Black.

Bedford County.

Shelbyville—Samuel Shaw Moody. Unionville—Daniel Carr Haggard. Wartrace—George Elmer Horton.

Benton County.

Camden—James Max Smith. Holladay—J. Lastra.

Bledsoe County.

Pikesville—Dion A. Greer.

Blount County.

Alcoa—W. A. Bishop. Maryville—James Ellis Carson, Sam Wright Donaldson. Townsend—Benjamin Edward Delozier.

Bradley County.

Cleveland—Thos. E. P. Chambers, Dabney Minor, Carl Thomas Speck.

Campbell County.

Block—Samuel D. Johnson, Clyde Russell. Caryville—Robert Lee Gallagher. La Follette —Wm. Harold Delap, Thomas Jennings, Edgar Sharon Turner. Westbourne—Edward Lee Inman.

Cannon County.

Bradyville—Jesse Franklin Adams.

Carroll County.

Huntingdon—Roy Archie Douglas, James H. McCall. Lavinia—John Darwin Carpenter. Trezevant—Tate Benton Colins.

Carter County.

Carter—D. B. Ensor. Elizabethton—Geo. Edward Campbell. Hampton—John Bell Shoun. Watauga—John W. Wallace.

Cheatham County.

Neptune—Robert P. Frasier.

Chester County.

Henderson—William Thomas Buck.

Claiborne County.

Cumberland Gap—James H. S. Morison. New Tazewell—James Calloway Carr.

Cocke County.

Newport—John Erwin Hampton, William Edgar McGaha, John Oscar Woods.

Coffee County.

Beech Grove—Homer Clytus Wysong. Hillsboro—Walter Lee McCaleb. Tullahoma—Charles Marion Griffith.

Crockett County.

Bells—Elisha Farrow.

Davidson County.

Joelton K. John; Robert Miller. Nashville—Murray Bell Davis; Will Foster Fyke; Robert G. Nelson; Henry Burton Parrish; Ammie Thomas Sikes; John William Simpson.

Nashville—Charles Franklin Anderson, G. F. Aycock, H. K. Alexander, Rufus Herve Bacote, Richard A. Barr, Roy Wallace Billington, John Frey Binkley, James Elliott Blaydes, William Porter Bowen, James Brew, Jr., Frank Benton Brewer, Charles Watkins Brown, Emmett Ezra Brown, Robert Bates Brown, James Lesslie Bryan, Orval Nelson Bryan, Matthew Gardner Buckner, George Washington Bugg, Lucius E. Burch, Jere W. Caldwell, Maurice L. Connell, Samuel C. Cowan, Carl R. Crutchfield, Albert S. Dabney, Owen Scott Deathridge, William Clarence Dixon, Frank Bumpass Dunklin, A. L. Erwin, Leonard Wright Edwards, Howard Merchant Francisco, H. E. Friedman, Ernest Mitchell Fuqua, Thurman Boyd Givan, S. McPheeters Glasgow, Fleetwoor Gruver, William David Haggard, J. A. Haiman, John Ewell Hall, Oliver Leslie Hambrick, Albert Wynne Harris, Morris D. Hartman, George Abram Hatcher, Sterling Buchanan Hinton, James Harvill Hite, Fountain Bruce Hulme, David Hamilton James, Jesse Arvin James, Andrew Blucher Jones, R. L. Jones, William Gilliam Kennon, John Howard King, H. L. Klein, Leon Martin Lanier, John Henry Lassiter, Jesse Leonidas Leach, John Moore Lee, James Dunn Lester, Joseph Henry Litterer, W. M. Lott, John Owsley Manier, Isaiah Herbert Martin, Elmer Stephens Maxwell, William Michael McCabe, Frank McClenton, Jesse Hunter McClure, Thomas Dempsey McKinney, Thomas Orville Menees, Thomas W. Menees, Edwin Evans Miller, Charles Samuel Morrow, David Robertson Neil, Eugene Orr, David Richards Pickens, Reuben Lester Richardson, Joseph Ward Russell, J. A. Sanders, Joseph Perry Schell, Enoch Corruth Seale, Matthew Wilson Searight, Harrison H. Shoulders, Irving Simons, Larkin Smith, Joe Harold St. John, Hugo Benton Stokes, Milton Tharp, Robert E. Sullivan, Otho Buel Taylor, Holland McTyiere Tigert, Harlin Guilford Tucker, Henry Harvey Walker, Charles Douglas Walton, William B. Ward, Leo Edward Welker, Hugh Dickson White, William Henry Witt, G. C. Williamson, Jack Witherspoon, Thomas Volney Woodring, Randall Everett Wyatt. Woodbine—Constantine Perkins Waller.

DeKalb County.

Alexandria—Leon D'Castro Cotten, James Benton Neil.

Dickson County.

Burns—Henry Petway Spencer.

Dyer County.

Bogota—D. T. Austin. Dyersburg—Robert Lyle Motley, Jr., E. Leroy Wilkins.

Newbern—John Doddridge Brewer.

Fayette County.

Laconia—William Herman Ballard. Macon—Walter Lee Boswell. Moscow—Orville Hulece Cribbins, Compton Ney Crook. Oakland—Cleveland Payne. Somerville—John W. Morris.

Fanklin County.

Cowan—John Hartwell Marable. Sewanee—Reynold Marvin Kirby-Smith, Allen Lawrence Lear.

Gibson County.

Bradford—Starnes E. Walker. Dyer—C. H. Sanford. Humboldt—John Walter Oursler. Medina—Thomas Munsey Harper. Trenton—Kuebel Bryant, Edward Corter Matthews. Ira Nelson Hudkins.

Giles County.

Aspen Hill—Rogers Nathaniel Herbert. Bethel—Louis A. Edmundson. Elkton—Wendell Phillips Baugh. Lynnville—Joe Bradford Wright. Frankewing—Walter Joe Johnson. Pulaski—John Henry Morris.

Grainger County.

Idol—Barney Langford McDonald. Tampico—Granville Dexter LeQuire. Tate—J. H. Idol.

Greene County.

Baileyton—Charles Young Bailey. Greeneville—James Franklin Lane. Mohawk—Lloyd Elmer Dyer.

Hamblen County.

Morristown—Claude J. Fuller, William Erastus Howell.

Hamilton County.

Chattanooga—Herman Jackson Barrett, Eli Milton Delay, William Wuche Dickey, George Manning Ellis, P. W. Emerson, William J. Hillas, Eugene R. Hochstetter, Albert Thompson Ingalls, Hiram Adoniram Laws, Jr., Stewart Lawill, H. C. Long, Samuel Herman Long, Fred Cameron McIsaac, James Douglas McPheeters, Ray Morison Means, Edward Dunbar Newell, J. H. Revington, Leopold Shumacker, Chester Arthur Skelton, John Black Steele, Bayard Sullivan, David King Summers, Carl August Gunner Sundstrom, Daniel Newton Williams. East Chattanooga—Jesse Cleveland Eldridge.

Chattanooga—William Fay Lake; Beverly Wood Yawn. St. Elmo—Miles Douglas Davis.

Hardeman County.

Bolivar—Victor H. Miller, William Claude Sain. Whiteville—Thomas Whitson Rhodes.

Lexington—C. L. Davidson.

Hardin County.

Gillises Mills—Granville Inman Walker.

Hawkins County.

Church Hill—Guy McClellan Reesor.

Haywood County.

Brownsville—Thomas Crowder Chapman, Clarence M. Gloster, William Vessey Pruett, Charles Edwin Sevier. Rudolph—John Montgomery Gill. Stanton—William B. Nash, Lonnie Otto Wilkerson.

Henderson County.

Darden—E. Gecovia Maxwell. Lexington—Samuel Thomas Parker.

Henry County.

Cottage Grove—Charles Headley. Paris—George Randle McSwain, John Horace McSwain, Milton C. Wiggins, William J. Ezell.

Hickman County.

Centreville—William Kenneth Edwards. Lyles—James Clagett Fly.

Centreville—John Snodgrass Beasley.

James County.

Apison—Harry Edgar Hall.

Jefferson County.

Jefferson City—Walter Samuel E. Hardy.

Johnson County.

Laurel Bloomery—Walter Winfield Widener.

Knox County.

Ball Camp—William R. Cross. Bearden—Hugh Lawson Peters. Knoxville—Harley Leland Acuff, Herbert Acuff, Hugh Walden Allan, F. H. Bomar, William P. Atchley, John David Carr, Daniel W. Crawford, Robert Crittenden Davis, R. V. DePue, Ernest V. Edwards, Claude A. Frazier, Joseph Johnson Greer, James Decatur Henderson, Lucius D. Hill, Samuel Hunt, Howard Aiken Ijams, Thomas Ap. Roger Jones, Robert Bruce Layman, Forrest Shetterly LeTellier, Harry Laurin Lott, H. H. McCempbell, Virgil Elwood Massey, L. S. McMullen, Thomas Peacock Miller, Robert Haller Newman, Beecher Lavator Ogle, Reese William Patterson, R. F. Patterson, Cary Alexander Snoddy, James M, Troutt. William Henry Landon White, Frank LeRoy Young, Robert Miller Young. Mascot—Kyle Cornett Copenhaver. Vestal—Benjamin J. Cogdill.

Knoxville—John F. Massey; Olin Welbourne Rogers.

Lake County.

Ridgely—Willis Socrates Alexander.

Lauderdale County.

Gates—Grover Cleveland Conyers, Russell Bate Wilson. Gold Dust—Russell Brooks Kilpatrick. Halls—Joseph Charles Blankenship, Youra Spence Brown.

Ripley—M. V. Sanford.

Lawrence County.

Iron City—Clyde Crawford Hardison. Summertown—Edward Starter Stewart.

Lincoln County.

Elora—Alfred Luther Griffith. Fayetteville—William Aaron Cashion, Charles L. Goodrich, Boone E. Noblitt.

Loudon County.

Lenoir City—Gid Malcolm Hall. Loudon—Halbert Robinson.

Madison Countly.

Jackson—Benjamin C. Arnold, Dorsey B. Granberry, Thomas Patrick Haralson, Jr., Julius A. Johnson, Fleming James O'Connor, William Gilchrist Saunders.

Marion County.

Copenhagen—Jere Williams Kirkpatrick. Jasper—Justin Ernest Lacy, J. A. Price. South Pittsburg—Samuel Newton Anderson, George M. Wampler.

Marshall County.

Chapel Hill—David De Will Moncrief. Lewisburg—William Everett Troxler.

Maury County.

Columbia—Percy Dake Biddle, Benjamin Franklin Davis, Paul Hamlin Faucett, Lucius Hough Gilmore, Robt. Pillow, Jr., Otey James Porter, George Cuthbert Williamson. Hampshire—James Henry Jones. Mt. Pleasant—Grover Cleveland English. Williamsport—Henry Osgood Anderson.

McMinn County.

Athens—James R. Nankivell. Etowah—William Daniel Richards. Riceville—Milton E. Cannon.

Meigs County.

Decatur—William Ross Arrants.

Monroe County.

Tellico Plains—William Huffman Niles.

Montgomery County.

Clarksville—William Haller Brandau, Geo. Edward Vaughan. Woodlawn—Manton S. Shelby.

Moore County.

Lynchburg—Hiram A. Laws, Jr.

Obion County.

Rives—Phillip John Trentch. Union City—Marvin A. Blanton, Orville Barnes Chandler, Benjamin F. Loring, Ira Oscar Park.

Perry County.

Flatwoods—William Earl Boyce, Thomas H. Sharp. Lobelville—William Dave Cagle.

Polk County.

Benton—S. B. McClary.

Putnam County.

Cookeville—William Albert Howard.

Rhea County.

Spring City—Joseph M. Clark.

Roane County.

Cardiff—George Edward Wilson. Harriman—Albert Victor Keebler, Fred Adolphus Neergaard, George Fulton St. John. Oliver Springs—William Asa Shelton. Wheat—John Blair Cross.

Harriman—Henry Morgan Carr. Rockwood—John Elisha Nelson.

Robertson County.

Cedar Hill—Miles W. Barnes. Greenbrier—William Winfred Winters. Springfield—Frederick Wilson Lee, Heddy S. Shoulders.

Rutherford County.

Murfreesboro—Vernon King Earthman, Aarciel Ellis Goodloe, William Bruce Lunsford, Mathias Brickell Murfree, William Thomas Robison, Asa D. Sharp.

Scott County.

Huntsville—James Foster. Oneida—Francis Marion Boyatt.

Sevier County.

Sevierville—John Harrison Huff.

Sevierville—John Wright Rogers.

Shelby County.

Arlington—William Thomas Harvell. Memphis—James Lindsay Andrews; William Oscar Baird; C. M. Chilton; Horace Powell Conley; Sidney Meeker; Oliver Perry Walker.

Caplerville—Robert Griffin Latimer. Eads—Guy Collins Anderson, Green Warren McConathy. Lucy—Wilbur Turner Blackshare, Leslie Turner Bolton. Memphis—Albert Shields Abernathy, Warren Grady Alford, Ernest Lynne Anderson, S. C. Andrews. Conrad O. Bailey, William H. Baldwin, C. B. Baughman, Clyde McKay Beck, Clarence Angelo Bell, Charles Alexander Bender, William Blackwell, Charles Decatur Blasingame, Salvator Leon Boccelato, William Ausborn Brewer, Stanley Needham Brinson, Charles Walter Brown, George L. Brown, Martin Edward

Bry, Kinsey Mansfield Buck, Hamilton Pope Calmes, P. W. Callahan, Edward Guy Campbell, William A. Carnes, Grover Carter, James Parvin Carter, Lyman Harvey Chapman, William Franklin Clary, William Campbell Colbert, C. Collier, Arthur Ferdinand Cooper, Thomas Nelson Coppedge, Thomas Francis Coughlin, Jr., John Wesley Cunningham, John R. Drake, Buford N. Dunavant, R. R. Davenport, Samuel Lee Edwards, Edward Coleman Ellett, Sidney S. Evans, James Surran Fleming, Samuel Evander Frierson, Edwin Cyril Gillespie, Clarence Hays Grover, James Frank Graham, Roy Granberry, Emmett Russell Hall, David Max Henning, Jack Phillips Henry, John Hansell Herring, Joel Jones Hobson, James William Hosse,, Thomas Harkins Ingram, Mark Mitchell Jetton, Joseph Edward Johnson, Max Kaplan, J. H. Karsch, Lawrence Larry Keller, Charles Cocffield King, Waldo Briggs Lain, Oscar Morgan Laten, Gilbert Joseph Levy, E. Lewis, Joseph Grady Ligon, William Battle Malone. Hiram Bradford Mann, Robin Ferguson Mason, J. J. McCaughan, Noah Morgan McFarland, John Lucius McGehee, Jr., J. A .McIntosh, Bernard Cornelius McMahon, Alphonse Herman Meyer, Leon Lepoold Meyer, John Samuel Miller, Edward Clay Mitchell, J. Logan Morgan, Norwin B. Norris, James Patrick Owens, Percy A. Perkins, John Wilson Ragsdale, Charles Thomas Richardson, Joseph Esthner Robinson, Lisle Benjamin Robinson, Walker Lee Rucks, Abner Potts Hubert Sage, Benjamin Lucky Schoolfield, Milton Barney Seligstein, Raphael Eustace Semmes, Curtis R. Senter, John Joseph Shea, Lawrence Robert Shearin, Gettis Troy Sheffield, Frank D. Smythe, Frank Ward Smythe, William Glassell Somerville, Marcus Gustavus Spingarn, James Butt Stanford, C. E. Starnes, Lee Alexander Stone, Charles Kincaid Summers, Walter Thomas Swink, Claude Allen Symons, John Quill Taylor, H. E. Thomas, James Rodefer Thomas, Edward Gilmer Thompson, Robert B. Underwood, James Albert Vaughan, Frank Cady Venn, Samuel Lewis Wadley, Howard Lombard Walker, Raymond Roscoe Wall, Cecil Everett Warde, Edwin Dial Watkins, William Alexander Watson, Grover Cleveland Webb, Joseph H. White, Benjamin Bernard Wright. Normal—Louis Francis Verdel.

Smith County.

Dixon Springs—R. E. Garrett.

Sullivan County.

Bristol—R. C. Booher, L. W. Newland, William Kirkpatrick Vance, Jr. Emmett—Edgar Charles Hawkins. Fordtown—Ernest Blanton Bowery. Kingsport—Hugh J. Baker, Milton Maceo Cloud, Charles Pender Edwards.

Sumner County.

Bethpage—Thomas Edward Wright. Gallatin—William Nicholas Lackey, Jonathan Nathaniel Rucker, Homer Reese. Portland—James Matthew Oliver. Westmoreland—William Porter Law.

Tipton County.

Covington—Lawrence Johnson Lindsley, Walter Wynne Sale. Munford—John Carlyle Witherington.

Trousdale County.

Hartsville—Fountain Miles Blankenship.

Union County.

Maynardville—James Stirling Skaggs

Warren County.

Irving College—Polk Duncan Brown.

Washington County.

Fall Branch—John R. McCrary. National Soldiers' Home—Emmett Earl Byrd. Johnson City—Llewellyn Moore Dykes, James Gaines Moss, Edwin Riley Reeves, Edward Talmage West. Washington College—Samuel Bruce Greenway.

Wayne County.

Clifton—Edward M. Culp.

Weakley County.

Dresden—Basil Sylvester Mayo. Dukedom—David Lonzo Jones.

Gardner—Henry Gideon Edmondson. Gleason—J. Edgar Jeter, Ira Jackson Tatum. Martin—Richard Mobley Little. Sharon—Alexander Joshua Bryant. Greenfield—G. C. Thomas.

White County.

Bon Air—Eustace Cosmo Mason. Ravenscroft—Grady Monroe Allison. Sparta—Andrew F. Richards.

Sparta—William Marvin Johnson.

Williamson County.

Arrington—Joseph Peter Delaney, Jr. Franklin—Daniel B. Cliffe, Beverly Toen Nolen.

Wilson County.

Lebanon—Nelson A. Bryan, Walter Scott Dotson.

Lebanon—James Robert Bone.

ENLISTMENTS IN M. R. C. NOT TO BE INTERRUPTED.

On August 8 a statement was issued by Newton D. Baker, Secretary of War, to the effect that further volunteering and the receipt of candidates for officers' training camps from civil life had been suspended, pending legislation in Congress affecting the draft ages. The Journal is advised by Dr. Franklin Martin, Chairman of the General Medical Board, Council of National Defense, that this order of the War Department does not apply to the enrollment of physicians in the Medical Reserve Corps of the Army and the Reserve Force of the Navy. It is earnestly desired that physicians should enlist in these services as rapidly as possible, in order that the actual pressing needs may be met.

Tennessee physicians have been applying for commissions in the Medical Reserve Corps in considerable numbers during the last few weeks. Our state's quota is not yet full, however, and it is hoped that applications will continue to be made and that applicants will present themselves for examination as promptly as possible.

MEMORIAL SERVICE FOR DR. A. H. P. SAGE.

One evening recently the Memphis and Shelby County Medical Society held a memorial meeting in honor of one of the members of the Society who had met his death while in the line of duty in France. Dr. A. P. H. Sage, one of the most recent and youngest members of the Memphis and Shelby County Medical Society, and who was among the first to volunteer for service abroad, was killed when a bomb was dropped by a Hun aviator upon a British base hospital, and it is said that Dr. Sage, at this time, was administering surgically to the needs of a wounded British soldier.

This was the second death from wounds that has come to the medical profession of the state of Tennessee in this war, and though there may be other martyrs to the cause for which we are fighting among the medical profession of our state, among the first to be mentioned in the glorious record which our profession is making for itself will be the name of this lamented young physician, who truly laid down his life that others might live. Not in the Biblical sense of this expression, but because this young physician so early threw himself into the noble cause, and while working to succor others, was stricken by the barbarians whom we are fighting on one of their favorite nocturnal hospital bombing expeditions. And what class of men have given more freely and made greater sacrifices for their country than the medical profession? None. 'Twere idle for us to speak in vainglorious praise of what the medical profession of this and other countries is doing in this great debacle, for it is well known that when medical men give up their practices, the most of them give their all, in a financial sense, and on their return to private life they must begin to rebuild that for which they have struggled perhaps many years, and furthermore, many of them are leaving their families in actual want, to take up the work of their country. And this, too, has been voluntary upon their part.

DR. WILLIAM A. DEITHRICH.

Dr. Wm. A. Deithrich, of Lookout Mountain, Tenn., died at the home of his sister in St. Joseph, Mich., on August 13, 1918, at the age of 66 years. Dr. Deithrich had been in failing health for about two years, during the greater part of which time he was not very actively engaged in practice. He was a member of the Chattanooga Academy of Medicine and Hamilton County Medical Society, the Tennessee State Medical Association, and the Americal Medical Association.

Wiiliam A. Deithrich was graduated from the Medical Department of the University of Maryland in 1879, and licensed in Tennessee in 1889. His practice was limited to diseases of the eye, ear, nose and throat.

TRACHOMA IN TENNESSEE.

Several cases of trachoma have been discovered recently in rural schools in Middle Tennessee counties where none had suspected that trachoma would be found. These cases were discovered through the work of District Directors of the Bureau of Rural Sanitation of the State Board of Health, who, in their routine work, have examined several thousand children in rural schols during the last two years. Very recently other cases of trachoma have been found by private physicians in one or two West Tennessee counties, while the prevalence of trachoma in several East Tennessee counties has been shown to be somewhat alarming to those who are familiar with the dreadful possibilities of this sight-destroying disease. A comparatively large number of cases of trachoma have been treated at the Trachoma Hospital at Tazewell, and the investigations made by the workers in charge of this institution have developed the fact that the disease is already present in many homes in the mountains.

A very distressing fact is that the parents of some of the children who have been found with trachoma are positively unwilling for them to be placed under treatment. Just why this is so, it would be hard to say. It is probably true that the most potent cause of the unwillingness of these parents to have their children properly treated is to be found in the ignorance of the people concerning the nature and the terrible possibilities of trachoma. It may be true that this ignorance is due, in some measure at least, to the fact that many physicians are not at all familiar with trachoma. We have often heard doctors say that they could not diagnose trachoma, just as we have heard many say that they did not believe that trachoma could be cured. Indeed, we have heard wrangles and disputes waged through tedious length of time between specialists whose notions and beliefs about trachoma were based upon the one or the other of the two teachings concerning the disease—the old or the new. We have heard one group of specialists standing out for a diagnosis of "follicular conjunctivitis" against the diagnosis of trachoma by another group. Whether mistaken or not, it has seemed to us that the older men have been grouped against the younger in these discussions. However all this may be, it is very certain that it is about time that the entire medical profession of Tennessee should become interested in trachoma and should make a serious effort to recognize the disease when it does exist, and to inform their clientele of the very dangerous nature of the disease, both as it may affect the individual and the community.

The pernicious eye "salve" is an abomination that should be banished from the earth, whether it be the salve of the patent medicine crook or the salve of the doctor who knows nothing about pathology in the eye. One who has seen trachoma's stronghold in certain sections of one or two of our Southern states has been impressed, and at the same time been made indignant, with the ever present box of "eye salve," whose dispensers have promised relief through its use in diseased eyes. Salves and drops may be indicated in certain eye troubles, but they probably have no place in the treatment of trachoma save as soothing applications to be used after resort to radical treatment.

The Journal wishes to sound a warning to the medical profession of Tennessee, and through the profession to the people of the state, in regard to the danger from trachoma. It is true beyond question, in the minds of those who have had experience in medical inspection of school children, that trachoma is more prevalent than is generally suspected. Keep awake to the possibility of its presence in your community; familiarize yourself with its symptomatology, remember always its harmful and terrible possibilities, and do not trifle with it if called upon to advise its victims. If you don't know trachoma, send your patient in whom you suspect the disease to some one who does know trachoma and how to deal with it.

SOCIAL INSURANCE.

In this Journal will be found the report of the Committee on Social Insurance, by Dr. Krauss. It is not an elaborate discussion of the general subject. Our members must study the questions involved for themselves and the sources from which they must secure their information are numerous, but are easy to reach. Dr. Krauss has listed a number of authoritative writings, any of which can be had with little trouble.

In this report two plans of administration have been presented and discussed. It is to be hoped that our readers will carefully study these, after first having acquainted themselves with the declared purposes of social insurance and the results which have followed the establishment and prosecution of the scheme in other countries. In some of our states health insurance laws are now in effect. Many who were formerly enthusiastic advocates of such laws are now bitter opponents, while the original opposition has been increased and stabilized.

When the problem comes up for settlement in Tennessee, let the medical profession be prepared by being informed.

BRAIN TRAUMA.

G. E. Espejo, New York (Journal A. M. A., May 4, 1918), reports the case of a boy, aged seven years, who was struck and rendered unconscious by an automobile while playing. Ophthalmoscopic examinations revealed slight general endematous changes blurring both disks equally. Roentgen examination revealed extensive linear fractures of the right parietal, frontal and temporal bones. After doing well for nearly a week, the patient was reported as having severe spasmodic contractions of the left side of his face with dyspnea and cyanosis. There was also complete flaccid paralysis of the left arm and leg, fixed eyes with widely dilated pupils, and complete unconsciousness. A right subtemporal decompression and drainage was performed, the cranial cavity opened and the opening enlarged with a rongeur. The dura appeared under normal tension, and only a few drops of cerebrospinal fluid escaped through a nick in the dura, showing that there was no general increase in pressure, but rather a focalized cortical edema. Radiating incisions were made through the dura, toward the edges of the bone gap, and no subdural clots were encountered. The dura was left open, and two rubber drains were inserted under each angle of the incision and over the cortex. The wound was closed with catgut and fine silk suture. The patient had swight twitchings of the left side of the face, which soon subsided. He became wide awake and conscious, with full control of the left arm and leg, and was discharged well, on the twelfth day after operation. Espejo remarks that the case illustrates two important points in the care of patients having brain injuries; first, as to the diagnosis of the extent of the brain injury at the time of the accident, and second, as to the mode of treatment to be pursued after a diagnosis has ben reached. Even if the patient seems to do well after recovering from initial shock, the surgeon should be most vigilant in watching for signs that might develop later, calling for immediate operation, and his prognosis must be guarded. Many patients recover from immediate injury, but are left epileptic or even demented from the later effects. If from the history or signs a brain injury is suspected, a lumbar puncture is imperative and repeated ophthalmoscopic examinations should be made.

THE OWEN-DYER BILL AS ENACTED.

The Owen-Dyer bill was the subject of intense interest at the annual meeting of the Tennessee State Medical Association at Memphis last April. Tennessee's representatives in Congress played a prominent part in legislation looking to increased rank for medical officers, and our whole membership was acutely interested in the disposition of the Owen-Dyer bill, the original measure introduced in Congress. The following letter from officers of the National Council of Defense gives our readers authoritative information concerning the organization of the medical service of the Army, including both the regular Medical Corps and the Medical Reserve Corps:

Washington, July 31, 1918.

From Dr. Franklin Martin,
Member of Advisory Commission.
To State and County Committees:
Subject: Owen-Dyer Bill.

1. The bill in reference to the Medical Department of the Army as passed and approved by the President of the United States on July 9th, 1918, is as follows:

"Increase in Medical Department: That the Medical Department of the Regular Army be, and is hereby, increased by one Assistant Surgeon-General, for service abroad during the present war, who shall have the rank of major general, and two Assistant Surgeon-Generals, who shall have the rank of brigadier general, all of whom shall be appointed from the Medical Corps of the Regular Army.

That the President may nominate and appoint in the Medical Department of the National Army, by and with the advice and consent of the Senate, from the Medical Reserve Corps of the Regular Army not to exceed two major generals and four brigadier generals.

That the commissioned officers of the Medical Corps of the Regular Army, none of whom shall have rank above that of colonel, shall be proportionately distributed in the several grades as now provided by law.

That the commissioned officers of the Medical Reserve Corps of the Regular Army, none of whom shall have rank above that of colonel, shall be proportionately distributed in the several grades as now provided by law for the Medical Corps of the Regular Army; Provided, that nothing in this Act shall be held or construed so as to discharge any officer of the Regular Army or deprive him of a commission which he now holds therein.''

2. Under this bill the ranks in the Medical Reserve Corps, based on the report of the Surgeon-General of July 12th, are as follows:

Major Generals	2
Brigadier Generals	4
Colonels 5	675
Lieutenant Colonels	1158
Majors	5063
Captains and Lieutenants	14374

By Direction of Dr. Franklin Martin:

John D. McLean,
Major, M. R. C.
Secretary Committee on State's Activities, General Medical Board.

NOTES AND COMMENT

Give the kid a square deal! Send in his birth certificate so he can be put on the books. Registered stock always has the best chance.

Did you report your communicable diseases to your County Health Officer for July? Come on and help get up the facts relative to morbidity in Tennessee.

Sign your death certificates yourself. Matters of tremendous importance may be decided on the genuineness of your signature.

Make a diagnosis wherever possible and assign a definite and understandable cause for death. Don't put down ''congestion,'' or ''old age,'' or ''hives,'' or ''fever.'' Put down something that really means something.

If the baby died because of enteritis, put it enteritis. If the cause of death was hereditary syphilis, say so. ''Inanition'' and ''marasmus'' don't mean anything unless accompanied by some contributory statement.

The man who waits for the draft to get him is going to be mighty sorry some of these days.

Don't let your county society die because of your neglect and indifference. This is the time to do more for its maintenance than you have ever done before.

The Blount County Medical Society held its July meeting at Louisville, with Dr. W. B. Lovingood as host.

Major Frank D. Smythe, M. R. C., was ordered to New York in July and has been doing special work in the hospitals of the me-

Salute Colonel E. C. Ellett, M. R. C.! Going into the Reserve Corps as a lieutenant, Ellett has passed through rank after rank until now he is a colonel. He's behaved in the Army just as he did in civil life—delivering the goods at every turn.

As has been repeatedly asserted in editorials in this Journal, there is nothing more certain about this war than that physicians are going to be had in numbers sufficient to serve the needs of our Army. Abundant opportunity has been given every man of serviceable age to volunteer. While a large number offered promptly, the need for more medical officers has not been adequately met. The answer is the draft. That's the only answer possible.

Our readers will find the advertisement of the Cutter Laboratory in this Journal. Tris laboratory has been serving the physicians of the country for twenty years from their location at Berkeley, California. The growth of their work has necessitated the establishment of an office at Chicago, from which the profession in the South can be better served. The Cutter Laboratory is vouched for by those in position to know of their dependability and merit, and the Journal has accepted their advertisement because we are satisfied that any work which they may do for our readers will be well done.

MISCELLANEOUS

AMEBIC DYSENTERY.

In a preliminary report, M. E. Barnes and E. C. Cort, Chiengmai, Siam (Journal A. M. A., Aug. 3, 1918), report on the use of oil of chenopodium in the treatment of amebic dysentery. Emetin does not satisfy physicians in the tropics. It is not altogether atoxc, and has been credited with untoward symptoms, and even death in some cases, and there are cases that fail altogether to respond to the emetin treatment. In connection with the campaign for the eradication and control of hookwarm infection in Siam, dysentery was at first considered as contraindicating the adminnstration of the anthelmintics used. Dysentery patients, however, began to apply the treatment, and in spite of instructions to the contrary a number of patients suffering from dysentery were treated by the assistants and clinically cured. Hence, the subject was taken up by Barnes and Cort, one of them taking the cases in the hookworm campaign and the other those treated in the Chiengmai Hospital. Attempts were made to follow up the cases, and make repeated examinations of stools. The patients here reported were ambulant. No cases of fulminating amebiasis were treated by this method. When the microscope showed amebas, it was considered safe to diagnose as pathogenic those amebas that had ingested erythrocytes. "The treatment to adults was administered in several ways. Some patients were given a preliminary dose of one-half ounce of magnesium sulphate, followed in two hours by 1 c.c. of the oil of chenopodium in capsule. One hour later a secon ddose of 1 c.c. of oil of chenopodium was administered, followed with in an hour by 1½ ounces of castor oil. In more severe cases, the preliminary saline was omitted, and 2 c.c. of the oil of chenopodium were administered in 1½ ounces of castor ol at a single dose. In other cases the oil of chenopodium, emulsified with gum acacia was administered by rectum. In such cases the anal mucosa must be protected with petrolatum, and it is well to terminate the injection wth 2 ounces of an inert oil. The buttocks should be elevated, the enema given slowly and with great care, the first dose not exceeding 8 ounces in the adult. This enema should be retained for an hour, if possible. If the parts are well protected with petrolatum the patient does not suffer from the intense burning sensations which would otherwise accompany the expulson of the enema. In practically every case, after treatment by one of the foregoing methods, there was marked improvement in the condition, as blood and mucus disappeared from the stools on the second day after treatment." In a few cases the improvement was only temporary. A number of cases are reported, in one of which, carrying cysts, chloroform, as recommended by Walker and Emrich, was included in the treatment of two patients in who mcysts were found. Some patients do not respond to chenopodium. Cases complicated with a flagellate infection seeme despecially resistant. For ambulant cases, chenopodium is very convenient, but it should be remembered not to repeat it in full doses at intervals of less than two or three weeks, on account of its irritating effect on the kidneys. The following are the authors' conclusions: "1. Oil of chenopodium relieves promptly the clinical symptoms in many patients with chronic and subacute amedic dysentery. 2. Oil of chenopodium administered by mouth or by rectum possesses marked power as an amebicide, as is shown by the rapid disappearance of amebas from the stools, following its administration. 3. There is a tendency to relapse in some cases, but in our series this is not greater than wth the use of emetin. 4. The oil of chenopodium may be safely administered, when combined with castor oil in a single dose."

NEW AND NONOFFICIAL REMEDIES.

Chlorine Soda Ampules.—Composed of a sealed glass tube stated to contain 4.8 gm. liquid chlorine and a sealed glass tube stated to contain 21.3 gm. monohydrated sodium carbonate and yielding, when the contents of the tube are dissolved in 1000 Cc. of water, a solution similar in composition to neutral solution of nhlorinated soda—N. N. R. To prepare the solution the rontents of the tube of monohydrated codium carbonate are placed in a bottle having a capacity of about 2000 Cc. and dissolved in 1000 Cc. water. The tube containing the liquid chlorine is suspended from a rubber stopper and is inserted into the bottle and the stopper securely inserted. The large bottle (after to break the chlorine tube, the contents of the bottle are then covered with a cloth) is shaken for two minutes or longer. The solution, freed from particles of glass, is ready for use, or its available chlorine may previously be checked by titration. The solution so obtained is intended for the Carrel-Dakin treatment of infected wounds. Johnson and Johnson, New Brunswick, N. J. (Jour. A. M. A., July 6, 1918, p. 939.)

Dextri-Maltose No. 2, Mead's.—A mixture containing approximately maltose, 23.1 per cent; dextrin, 42.6 per cent, and moisture, 4.3 per cent. On the claim that maltose is more readily assimilable than other forms of sugar, Mead's dextrimaltose No. 2 is proposed for use in the diet of adult invalids. Mead, Johnson & Co., Evansville, Ind.

Dextri-Maltose No. 3, Mead's.—A mixture containing approximately maltose, 52 per cent; dextrin, 41.7 per cent; potassium carbonate, anhydrous, 2 per cent, and moisture, 4.3 per cent. In the belief that an addition of potassium salts counteracts a tendency to constipation, it is said to be particularly adapted in the feeding of constipated infants. Mead, Johnson & Co., Evansville, Ind. (Jour. A. M. A., July 20, 1918, p. 193).

BOOK REVIEWS

THE COMPOSITION OF CERTAIN PATENT AND PROPRIETARY MEDICINES. Compiled by John Phillips Street, chemist in charge of Analytical Laboratory, Connecticut Agricultural Experiment Station; 274 pages; more than 2,500 remedies; over 3,100 analyses. American Medical Association, 535 North Dearborn St., Chicago. Cloth, $1.25, postpaid.

During the past few years hundreds of "patent" and proprietary medicines have been analyzed, with the object of giving the public information that would be of vital interest to it. This work has been done by federal and state officials and especially by the chemists of the American Medical Association. The information, unfortunately, has been scattered through many publications and, for this reason, has not been easily accessible either to the public or to officials. The purpose of Mr. Street's compilation is to remedy this difficulty, in a measure, by bringing together in one work an accurate record of published analyses. The book contains analyses (one or more) of over 2,500 proprietary medicines, including the most widely used and extensively advertised products offered to the American public. The analyses are published without comment and without prejudice, and the compact form in which they are presented should prove of great usefulness to the physician, the pharmacist, the inspection official and the intelligent layman.

LOCAL AND REGIONAL ANESTHESIA, including Analgesia. By Carroll W. Allen, M. D., of Tulane University, New Orleans. Second edition; reset; 674 pages, with 260 illustrations. W. B. Saunders Company, Philadelphia. Cloth, $6.50.

This is a very comprehensive work, in which is to be found whatever is worth finding about local anesthesia. Dr. Allen is a very patient and a very thorough worker, leaning to the "safety first" side in his presentation of his subject. The first edition of his book attracted wide favorable attention, due to the fact that it was the most pretentious work of its kind which had appeared up to the time of its publication, and because, further, thoroughness and sanity were found to abound in all of his studies and all of his deductions and conclusions. The most notable addition to the second edition is to be found in the description of the operation for the removal of the prostate under local anesthesia, though much else that is new has also been written. The illustrations are good, having been chosen because of their instructive value and executed with fine attention to detail and correctness by the artists.

DIFFERENTIAL DIAGNOSIS. Vol. 2, Second Edition. Presented through an analysist of 317 cases. By Richard C. Cabot, M. D., Assistant Professor of Clinical Medicine, Harvard University Medical School. Illustrated. W. B. Saunders Company, Philadelphia. $6.00.

In this volume of Dr. Cabot's, following up the same general plan adopted in the first volume, nineteen symptoms have been selected for analysis and illustration. Some new matter has been introduced into this edition on vertigo and shell shock. It is almost impossible for one who knows any medicine and who will think as he reads to fail to secure very positive benefits from a study of Cabot's cases as presented in this book. His plan is unique indeed, but has proven itself workable and capable of yielding splendid results in the instruction of those who will follow it out in their study of disease.

CLINICAL DIAGNOSIS. A Manual of Leboratory Methods. By James Campbell Todd, M. D., Professor of Pathology, University of Colorado. Fourth edition; revised. Well illustrated. W. B. Saunders Company, Phliadelphia. $3.00 net.

This, the fourth edition of Dr. Todd's book, is a very splendid laboratory manual. It is extremely practical in that it emphasizes the necessity for careful work upon the part of the student in laboratory technic as well as in preparation for the recognition of structures; descriptions of laboratory methods and of tissues and microscopic structures generally are given in detail, thus leaving nothing to the imagination of the student; much new material is incorporated. The illustrations are well chosen and well executed.

COLLECTED PAPERS OF THE MAYO CLINIC. Vol. LX, 1917. W. B. Saunders Company, Philadelphia.

This is the usual annual compilation of scientific papers from the great Mayo Clinic, presented in the usual way. It would be no praise to try to set out the merit of this work in words within our vocabulary and in phrases within our ability to make. It's Mayo Clinic "stuff"—that's all and that's enough. The headings under which the papers are presented are: Alimentary Canal; Urogenital Organs; Ductless Glands; Heart; Blood; Skin and Venereal Diseases; Head, Trunk, and Extremities; Technic; General.

SURGICAL CLINICS OF CHICAGO. Volume 2, Number 3, June, 1918. W. B. Saunders Company, Philadelphia. Bi-monthly; $10 per year.

Renal Calculus and Gallstones, A. J. Ochsner; Kidney Stone, Ureteral Stone, Cholemia from Obstruction Due to Common Duct Stone, Sarcoma of Neck, Fibroma in the Mesentery, Jejunal Obstruction Due to Adhesions About Site of Gastroenterostomy, A. D. Bevan; Ureteral Stone, Gustav Kollischer and J. S. Eisenstaedt; Gall Bladder Disease and Consideration of 1,000 Cases, Frank Smithies; Surgical Affections of Stomach and Duodenum, F. A. Beasley; Removal of Abdominal Tumors Under Local Anesthesia, Hoglund Bone Transplant for Ununited Fractures of Tibia, F. G. Dyas; Tumor of Gasserian Ganglion, N. M. Percy; Bunions, E. W. Ryerson; Treatment of Flat-foot, E. H. Ochsner; Umbilical Hernia of Infants and Children, C. G. Buford; Incarcerated Hernia Due to Adherent Carcinomatous Omentum, R. T. Vaughn; Bicornate Uterus Complicated by Partial Strangulation of an Ovarian Cyst, T. J. Watkins; Certain Surgical affections of Nose, Throat and Ear, G. E. Shambaugh.

THE HODGEN SPLINT. By Frank G. Nifong, M. D., Columbia, Mo. 124 illustrations. C. V. Mosby Company, St. Louis.

If you are called upon to treat fractures of the lower extremities, you owe it to yourself and to your patients to know the Hodgen splint, its range of application, its proper method of application, and its wonderful comfort-giving power for the patient and the splendid results which follow its intelligent use. In the little book he has written, Dr. Nifong describes more fully than we have seen done elsewhere the Hodgen splint, its indications. its making, its application and its points of superiority. In addition to the description of the Hodgen splint, many pertinent facts connectinf fractures and appliances in general use in the treatment of fractures are discussed.

THE WASSERMAN TEST. By Charles F. Craig, A. M., M. D., Lt. Colonel Medical Corps, United States Army. Published with authority of the Surgeon-General, United States Army. Illustrated. C. V. Mosby Company, St. Louis.

This is a somewhat comprehensive treatuse, though the author states in his preface that it is not as exhaustive as he had originally intended to make it, because the war has interfered with the preparation of the text. However that may be, it is very certain that Dr. Craig has compiled a very considerable amount of thoroughly scientific information relative to this most important laboratory procedure. The general description of the test is given in detail and the nature of the reaction is well explained. A full chapter is given to a discussion of the factors which influence the result of the test, while the preparation and titration of the reagents used is taken up in another chapter. Thus, in chapters with suitable and well chosen headings, the whole subject of Wassermann diagnosis is very thoroughly covered. A strong feature of Dr. Craig's work is that he emphasizes the facts known as to the limitations and as to the value of the test, and, undoubtedly, his book will do much

SQUIBB'S MINERAL OIL
called

Liquid Petrolatum Squibb
Heavy (Californian)

Specially refined under our control and exclusively for us only by the *Standard Oil Company* of *California* which has no connection with any other Standard Oil Company

THE QUALITY MINERAL OIL. SPECIALLY REFINED FOR INTERNAL USE. IS A PURE, COLORLESS, ODORLESS, TASTELESS MINERAL OIL OF THE NAPHTHENE SERIES, INERT AND HIGHLY RESISTANT TO CHEMICAL CHANGE. IT THEREFORE MAY BE PRESCRIBED FOR YOUNG OR OLD IN ANY SIZE DOSE INDICATED.

E. R. Squibb & Sons, 80 Beekman Street, New York City, N. Y.

THE CITY VIEW SANITARIUM

ESTABLISHED 1907

For the Treatment of Mental and Nervous Diseases and the Addictions.

New 50 Room Department Completed January, 1915

Now Have Two New Buildings, One For Each Sex

A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accomodations to meet the requirements of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65.

JOHN W. STEVENS, M. D.
PHYSICIAN-IN-CHARGE
Telephone Main 2928
Rural Route No. 1, Nashville, Tenn.

REFERENCES—THE MEDICAL PROFESSION OF NASHVILLE

toward giving its readers right ideas as to what the test can do in the diagnosis of syphilis and as to the interpretation which should rightly be put upon one or the other result of the test. An insistence which should be heeded by the profession is that made by the author to the effect that the making of the Wassermann test should be given into the hands of qualified serologists. It is true beyond question that much of the confusion and doubt that has arisen concerning the value of the test has been due to worthless results secured by incompetent laboratorians.

DISEASES OF THE MALE URETHRA. By Irvin S. Koll, M. D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School, Chicago. 151 pages, with 123 illustrations. W. B. Saunders Company, Philadelphia. $3.00.

This is a splendid monograph in which the author presents convincingly the most modern scientific knowledge of his subjects. The old baseless ideas of the pathology and treatment of diseases of the male urethra are thrown ruthlessly into the discard by Dr. Koll and something really worth while is substituted for them. The illustrations used are splendid. Gonorrhea in its entirety is thoroughly well covered and the chapter on sterility is of especial interest.

THE TREATMENT OF WAR WOUNDS. By W. W. Keen, M. D., Emeritus Professor of Surgery, Jefferson Medical College. Second Edition. Reset. Illustrated. W. E. Saunders Company, Philadelphia. Cloth, $2.00.

Dr. Keen has here compiled a wonderful amount of helpful information in very small space. The first edition of this book, which came in the nature of a report to the National Research Council, was exhausted in a few months; this second edition is almost an entirely new book, because of the very remarkable progress that has been made in successfully combating wound infections in the war zone. A relatively large space is given to shock, while all of the various new wound disinfectants and their methods of application are described. The newer methods for the localization of foreign bodies, tetanus, gas gangrene, the treatment of burns with No. 7 paraffin, and other important subjects are well discussed, while wounds of the head, chest, abdomen and joints are taken up in separate chapters. A most interesting feature is a collection of personal letters from distinguished surgeons serving in the war areas.

YOU can help shorten the war by investing all the money you can possibly raise in

War Savings Stamps

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary   J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI   NASHVILLE, TENN., SEPTEMBER, 1918   NUMBER 5

EYE REQUIREMENTS FOR AVIATORS.*

By ROBERT FAGIN, B. A., M. D.
Memphis.
Associate Professor of Ophthalmology in the University of Tennessee.
Civilian Oculist to Aviation School, Memphis.

The Aviation Division of the Signal Corps is quite often spoken of as the "Eyes of the Army," and well may it be called this, for in the present war the airplanes of both sides are playing a most important part. The enemy ships are almost constantly in the air over the trenches of our own boys and our Allies endeavoring to "see" and to find out as much as possible about our positions and our reinforcements, while our ships are chasing them back and are making every effort possible to "see" all that is going on "over there" on the other side of "no man's land."

During a recent conversation with one of the officers here at our own aviation school, Park Field, I was told how wonderfully plain everything on the earth appeared as viewed from an airship. I was told that the human eyes looking downward could, at a glance, take in all the important objects in a field of many acres. I was told, too, that pike roads and railroads which are on the earth's surface can be seen for many miles, and that as long as the airplanes fly below the clouds all large objects stand out distinctly, while smaller objects, for instance a man, can be plainly seen.

A very recent visit to the top of our office building, the Exchange Building, which is twenty stories high, gave me such a splendid view of Court Square that I at once experienced what my aviator friends had said to me. I realized what a splendid view I had of the things beneath me, and, then, I imagined, if I were still thousands of times higher, how much broader would be the view, and how much better I could judge the relation of objects, because I could see the whole of them, and not just a part, as one does from the earth's surface. Thus, we know that our aviators can do the "seeing" for "our army," and that no ship is better than the vision of its driver. Therefore, it behooves us to demand that its driver must fulfill the most rigid eye requirements.

Requirements:

Each country has its own special physical and mental requirements. Our enemy has, perhaps, the lowest physical requirements of them all. Especially is this true in regard to eye requirements. The Germans, as a race, are myopic (near-sighted), and I am told that the goggles of most of the German aviators are made of very myopic lenses, and that in a battle if the goggles are misplaced, or if they are knocked off, the driver is completely at the mercy of his assailant, for he is practically blind without his goggles.

The French, the Canadian, the British and the Italian governments are much more strict than the German as to eye requirements, but no other country is more demanding than our own United States of America. I have known more than one applicant to fail on the eye requirements of this country, who went to Canada and passed easily.

If one will glance over the eye requirements of the applicant's examination sheets, he will see that the eyes here in the United

---

*Read before Section on Ophthalmology and Otolaryngology, annual meeting of Tennessee State Medical Association, Memphis, April, 1918.

States are examined from twelve different standpoints, and that they must be one hundred per cent perfect in all twelve, with only one exception. The eyes may show as much as one or two degrees of muscle error, but no more than this. One or two degrees of esophoria or exophoria is considered normal, because most eyes have this much.

These are the twelve requirements:

1. History of eye lesions, headaches, eye strain, glasses, etc.
2. Inspection of eyes and eyelids for corneal opacities, injuries, etc.
3. Test for nystagmus (extremely careful in its detection).
4. Test movements of eyeballs in all directions (to detect paresis or paralysis of extrinsic muscles).
5. In dark room, test pupil reactions; direct and consensual.
6. Stereoscopic vision.
7. Fields of vision.
8. Color vision.
9. Acuity of vision.
10. Muscle balance.
11. Near point.
12. Dilate the pupils; examine media and fundus with the ophthalmoscope.

The technique of making the stereoscopic examination is very important. The stereoscope teaches us the applicant's ability to fuse objects and thus maintain binocular single vision. The cards used by our Government in this test are very unique, and the only objection to them is that, like so many of our things here, they have "made in Germany" on them, but barring this they are splendid. There are ten small objects on each half of the card. These objects are so arranged and at such angles to each other than, after viewed for a moment with the stereoscope, they begin to place themselves in space with certain distances between them. Each object is numbered, and the applicant is required to write on his examination paper the number of the object which is nearest to him; the number that is next nearest to him, and so on, until all ten of the numbers have been written. If the objects continue to appear as if on a "flat surface," the applicant is rejected, for he evidently does not have normal fusion power, nor binocular single vision. It requires binocular single vision to judge the distance between two or more objects in space. It is impossible for one eye to accurately judge it. Thus, we see the practical value of the test.

Color Vision:

One is struck by the seemingly large number of young men who are color blind. I remember to have had two applicants in one day who had this defect. One must differentiate between color blindness and color ignorance. The latter can, by training, be overcome, but the former is congenital and cannot be overcome. Green and red are the colors that must be detected. The applicant must not confuse these, nor any of their shades. He must have a correct perception of red and green. THIS IS VITAL.

Visual Acuity:

Each eye must possess 20/20 vision. It is true that vision of 20/15 will be accepted, but vision of 20/30 will be rejected. If a plus two sphere is placed in front of each eye and the vision of 20/20 maintained, the applicant is rejected. Hyperopia under strain would soon fatigue the eyes.

Muscle Balance:

This is a very important test. Of the six-hundred and nine qualifications, muscle error constitutes one of the greatest sources of loss to the service. Exophoria is very common, and is very undesirable. The normal tendency of eyes is to converge, but if fatigue sets in and accommodation ceases, then convergence ceases, too, for accommodation and convergence "go hand in hand," and as soon as normal convergence ceases, the eyes begin to diverge to the point of diplopia. Therefore, in long flights, when the ciliary muscles begin to become fatigued, small degrees of even esophoria may change to large amounts of exophoria, double vision set in, and thus the life of the aviator is endangered. Especially is this true when he attempts to land. Consequently, we see that the muscle test is most important.

Near Point:

Near point must be taken for each eye separately. Applicant, age 22 years, near point 11 cm., each eye, is considered normal, but if the near point was 15 cm. in right eye and 16 cm. in left eye, applicant would be rejected, because he either has premature presbyopia or latent hyperopia, either of which disqualifies.

Ophthalmoscope:

Old healed atrophic spots in the retina or choroid do not disqualify. These were left here during childhood as a result of some focal infection, and thus are looked upon the same as a scar following smallpox. Thus, "scars do not disqualify," but acute or subacute chorio-retinitis does disqualify, although the vision may still be 20/20.

Conclusion:

When I sent in the title of my paper, our examinations here were being held each day and the applicants seemed numberless. This was true at all other examining places, so the ground schools are now full to the overflowing, and enough material ahead for many months, so, for this reason, our examinations here have been indefinitely postponed. We made several thousand examinations here and accepted a few more than six hundred applicants.

DISCUSSION.

DR. LEWIS M. SCOTT, Jellico: I wish to ask Dr. Fagin if he used Snellen's test type when testing the acuity of vision? We all know, of course, the possibility of the type being read from memory by the over-ambitious volunteer seeking to get into this line of service.

DR. FAGIN (closing): I wish to thank each member for his splendid attention, and especially do I thank those of you who discussed my paper.

In regard to the preliminary test, I must say that we found in many instances where the doctor at home had failed to properly examine the applicant, and thus had sent him on to us with a defect, which would immediately "turn him down." For instance, I remember several boys with vision of 20/40 in each eye, whose application had been filled in by a good man, sometimes by a specialist, at his home, who should have read on the application blank, "A vision of 20/20 in each eye is required." Thus, the doctor would have saved this young man the time and expense of coming to Memphis, and the humiliation of failing, for I never have seen such an enthusiastic bunch of boys before. They are "crazy" to pass, and sometimes even cry when some physical defect prevents them from passing.

In regard to refraction, glasses are not allowed at all, so we make no effort to improve a vision of even 20/30. Nystagmus, even small in amount, also disqualifies.

I endorse all that Dr. Price has said in regard to muscles. Thank you again.

REPORT OF A CASE OF TRAUMATIC STRICTURE OF THE LARYNX.[*]

By Hilliard Wood, M. D.,
Nashville.

November 30 1915, E. P. was brought to me by Dr. R. C. Gaw of Gainesboro, Tenn. The patient was a boy, fifteen years of age, who gave the following history:

History;

Four weeks previously, while driving a wagon into the barn, patient's neck was caught between a pea huller in the wagon and a cross beam of the barn, so that his neck was crushed between the stationary beam and the oncoming pea huller. This was followed by bleeding from the throat, and loss of his voice, only a whispering voice being left. The soreness subsided, but three weeks later dyspnoea developed. This had gradually grown worse for one week, at the end of which time patient was brought to me. When brought to me his breathing was very labored and he suffered so much from dyspnea that he had not slept for several nights, as he had to stay awake to carry on the labor of respiration.

Examination:

Upon examination I found the upper opening of the larynx contracted to the size of a lead pencil. As far as could be seen, the entire laryngeal cavity was contracted, especially the antero-posterior diameter. Externally, the entire larynx seemed infiltrated, indurated and hardened.

Diagnosis:

Traumatic stricture of the larynx.

Treatment:

December 1st. Inserted largest size of O'Dwyer's tubes, which went into the larynx with ease, but was coughed up some ten minutes later. The dyspnoea was so severe that at least temporary relief was urgent.

Operation at St. Thomas Hospital under novocain anesthesia. Did high tracheotomy. After making an opening in the trachea, divided first three rings of the trachea; no obsruction of the trachea could be noticed at that point. From this it was believed that all the obstruction was confined to the larynx, and did not involve the trachea. A tracheal tube was inserted, and immediately the patient, who had slept little or none for three or four days, fell asleep and slept most of the time for twenty or thirty hours.

---

[*] Read before Section of Ophthalmology and Otolaryngology, annual meeting of Tennessee State Medical Association, Memphis, April, 1918.

December 4th. Inserted largest size of O'Dwyer's tubes into the larynx. Tube coughed up about ten minutes later.

December 16. Inserted special tube, one size larger than No. 7 of the O'Dwyer set, into the larynx, but tube was coughed up a few minutes later. Tube re-inserted; result, same as before, i. e., was coughed up.

December 18th. Attempted bronchoscopic examination under local anesthesia; failed. Several efforts to insert laryngeal tubes failed, as tubes were invariably coughed up within a few minutes.

December 20th. Inserted laryngeal tube No. 9 into the larynx in the following manner: passing a string to the lower end of the laryngeal tube through a small opening which had been made in one side of the lower end of the tube. By drawing on the string through the tracheal opening, and guiding the laryngeal tube through the mouth and down into the larynx, the tube was easily put in, and then by anchoring the lower end of the string out of the tracheal wound to a tape around the neck, the laryngeal tube was held in place. A tracheal tube a size smaller than the one previously used was now inserted into the tracheal opening. The patient now had two tubes, one in his trachea and the other in his larynx, the laryngeal tube being held in, and the patient prevented from coughing it up by the string, as above stated. After inserting the laryngeal tube, the tracheal tube was obstructed by my finger, and the patient stated he could breathe with perfect ease through the laryngeal tube.

December 28th. Inserted laryngeal tube No. 11. Removed tracheal tube and applied a dressing over the tracheal opening.

December 29. Patient had gradual rise in temperature during the day, which at 5:30 p. m. reached 103 F. At 4 p. m. had rigor. No evidence of pneumonia.

December 30th. Opened wound in the neck and introduced gauze drain.

December 31st. Temperature normal.

January 3, 1916. Attempted to insert tube No. 13 into the larynx, but same was too large and would not remain in the larynx. Patient can breathe freely without any tube in the larynx, hence all tubes left out for the present.

January 4th. Failed to get tube No. 13 into the larynx. Replaced tube No. 11.

January 8th. All tubes left out.

January 18th. Inserted laryngeal tube No. 12.

The first laryngeal tube introduced measured 11 mm. in its greatest (antero-posterior) diameter, and was 55 mm. long. The second laryngeal tube was 155 mm. in its antero-posterior diameter, and was 55 mm. long. The last laryngeal tube measured 166 mm. in its antero-posterior diameter, and was 55 mm. long. The tube which was 188 mm. in its antero-posterior diameter and 55 mm. long could not be introduced into the larynx.

January 21st. Removed laryngeal tube and string from the larynx and tracheal opening. Larynx seems to be very well open, apparently 1-4 inch transversely by 2-3 inch antero-posteriorly in diameter. No ulceration about the larynx noted. Breathing free and easy. Tracheal opening closed.

January 22nd. Patient returned home.

January 30th. Patient's voice, which had been lost since the original accident, suddenly returned and was fairly normal.

Under date of April 5th patient's physician, Dr. Gaw, reports as follows:

"1. His breathing is normal, except for slight snoring at night, which is a little peculiar in character. He does not complain of shortness of breath on exertion, and seems to have the wind of a greyhound.

"2. Voice very greatly improved. He can talk and sing as well as he ever could. His voice seems to be gradually getting stronger.

"3. Throat appears to be normal.

"4. General health good. He has had no trouble whatever, I am informed.

"5. Has been doing any and all kinds of farm work. He can do as much manual labor as any one. He went to Texas and worked on the farm last year. Made a full hand."

DISCUSSION.

Dr. McKinney said he was quite interested in the case reported by Dr. Wood, which he had handled so satisfactorily. The method used by him, so far as he could glean from the description, was one described by Dr. Samuel Iglauer, of Cincinnati, two or three years ago, whereby the tube was anchored in the trachea, with a thread leading from the tracheal wound for anchorage. These cases are not common, and we are always glad to have any clinical experience reported, so that we can obtain technical points in handling them.

DR. WOOD (closing): The point in this case which was of most interest to me was the difficulty of retaining the tube in the larynx, and the method by which this difficulty was finally solved. I could not, either from the literature or otherwise, gain any knowledge as to how this tube might be kept in the larynx, until the idea, brought out in the paper, of tying a string to the lower end of the tube and passing it through the tracheal opening, occurred to me, and as this plan worked satisfactorily, I thought I might be pardoned for bringing it to your attention.

Ed. Note.—Not all of the discussion on this paper is included, because not received by The Journal.

TREATMENT OF MASTOID DISEASE*

By Lt. J. P. Crawford, M. R. C.,
Nashville.

I shall not take up your time with the symptoms or diagnosis of mastoid disease, but wish to first consider the treatment with hot water irrigation, and secondly, what I term the secondary blood clot in the post-operative cases.

Hot Water Irrigation.—I have been using the hot water irrigation systematically in all my mastoid cases since the early part of 1906. Looking over my records I find, in that time I have treated, to be conservative, something over one hundred well marked cases of mastoid disease.

As my earlier records were not as accurately kept as they should have been, I am basing this report, to be conservative, on one hundred cases. I have not had any examination made to ascertain the nature of the infection. However, they followed the usual diseases: Measles, scarlet fever, grippe, cold and sore throats, and one case occurred during an attack of typhoid fever and pneumonia.

Previous to my use of the hot irrigation it was my custom to do a paracentesis in all cases when first seen, and especially where there was earache, redness, and bulging of the drum, but since beginning the use of irrigation I have not done a single puncture of the drum in an adult, or a child old enough to submit to the irrigation. I have had a few children as young as seven or eight years who did submit to the treatment, and one will be surprised at the amount of heat some of these little fellows will stand.

While it is not my custom to puncture the drum, there is no objection, as many of the cases, unless seen very early, will later rupture of their own accord. I think I can safely say that 40 per cent of the early cases will recover without rupture of the drum; a result certainly to be desired, as one thereby avoids the momentary, though intense pain, and should the drum not rupture you avoid a double infection, which you will almost surely have where the drum ruptures or is punctured; more especially as you run little or no risk if the puncture is not made.

In order to have the treatment properly carried out, one must fully impress the patient and attendants with the possible danger, and insist that unless the directions are rigidly followed the case will most surely come to operation. On the other hand, if properly carried out, the danger will be past in from eighteen to thirty-six hours.

You should see that the first treatment is properly given and in most cases you will have no trouble in having your instructions followed to the letter. The patient should be put to bed and kept quiet. I usually order a large dose of salts to clear out the alimentary canal. I then use the ordinary household one-quart or two-quart fountain syringe, and have the bottom of the bag held or hung eighteen inches above the ear. This will give plenty of force to the stream without being too strong. The hard rubber nozzle is removed and if there is a shoulder on the tube, I either invert the ends or cut off the shoulder. You then have absolute control of the water and can pinch the soft end of the tube at once when desired, and not drench the patient or the bedclothes, as one is liable to do if he depends on cutting off the water with the ordinary cut-off. Any ordinary, intelligent individual can quickly learn to give the irrigation. The patient's head should be near the edge of the bed; the attendant should be seated on a low stool or chair, as it takes from ten to fifteen minutes to give the irrigation, and the attendant should not be in a cramped or strained position.

---

*Read at annual meeting of Tennessee State Medical Association, at Memphis, April, 1918.

The orifice of the canal and the lobe of the ear should be anointed with vaseline, in order, as much as possible, to protect the skin surface from the heat. The best-shaped vessel to catch the return flow of water is the ordinary small soup-bowl or a pint cup. A larger vessel should be at hand in which to empty the smaller vessel. Start the irrigation with the water at 110 deg., grasp tube near the end, pinching the calibre of tube with the thumb and finger, holding it about one-half to an inch from the canal. Direct a constant stream of water about the size of a large broom straw along the posterior canal wall, thereby avoiding dizziness which sometimes occurs when the stream is directed straight against the drum membrane.

The patient will at first complain of the heat; simply pinch off the flow for a few seconds, and begin again, if only for a few seconds at a time. If persisted in, usually in a short time the water will feel very grateful to the patient. Occasionally the temperature of the water may have to be slightly lowered for a time or two, but after a few irrigations the heat will be demanded by the patient, and you can very quickly bring the temperature of the water to 125 deg., or more. About this stage you will find that the complainant in the case will be the attendant, and not the patient. In the worst cases I use the hot water bag on the mastoid region, in the intervals between the irrigations, being very careful not to allow the bag to rest on the lobe of the ear, as the constant heat makes the skin surface more tender.

As the symptoms and the patient's condition gradually improve, one can lengthen the interval between the irrigation to an hour, or two hours, depending on the case. And as the case improves, the irrigations should be given every two hours until practically all symptoms have disappeared. Then one may drop to two or three irrigations a day. Often there may be quite a good deal of discharge from the middle ear after the mastoid symptoms have cleared up. In these cases the irrigations should be continued twice a day and the attendant should be instructed to wipe the ear dry with small pledgets of cotton on a probe or toothpick, and instill a few drops of 20 per cent solution of argyrol in the canal until the discharge ceases and the drum heals.

Although the patient may be feeling better and apparently out of danger, one has to be very careful and not allow him to get up too soon, for fear of a relapse, as has occurred in several of my cases. And yet I have not been able to find any satisfactory reason for the relapse. I make it a rule not to use anything in the water, as I want to fully impress on the patient and attendant that I am depending entirely on the hot water, and it is well to have the irrigation given on each visit, even though it is out of the regular time, until you, at least, feel sure that the irrigations are hot enough and properly given. However, in a great majority of cases the patient, after a few days, will insist on the water being very hot.

Out of the hundred or more acute cases I have treated with the hot water in the past twelve years, I have had only one case to come to operation, and that patient, while still in good health, had a bad tuberculous history, and the mastoid wound granulated badly. And notwithstanding I tried the blood clot and, later, transplanting of muscular tissue, she still has an ugly depression with an opening.

I will give the history of two cases that would be classed as inoperable cases. One was an old woman over seventy years of age, who was and had been suffering with diabetes with hyaline and granular casts for several years. The question of operation was discussed with her family physician and he gave it as his opinion that if an operation were attempted she would die on the table from the anaesthesia. While her general condition, in my judgment, did not warrant such a grave prognosis, I was not willing to operate or to decline to operate without going into the condition more thoroughly, so had an analysis of the urine made by a competent pathologist, who confirmed the previous findings of her family physician. While it certainly did not look much like a case for hot irrigations, I concluded to try the water, at least for a few days, until the urine, blood and the discharge could be examined before deciding the course to pursue. I began the treatment every half hour on Friday at noon. Saturday morning her condition was apparently better. However, I was still noncommittal, but the next morning (Monday) there was no longer any doubt that her condition was markedly better, and before receiving the report of the pathologist I decided that operation would not have to be done. While the improvement was slow, she went on to complete recovery.

The other case was a young girl who developed double pneumonia in the fourth week of typhoid, and a few days later had a mastoid involvement with all the classical symptoms. When I saw the case, operation was, of course, out of the question, and we decided to try the hot water. To the surprise of all, the mastoid condition cleared up and the girl finally recovered, and now, some six years later, is in good health.

These two cases alone, in my judgment, should go a long way in establishing the efficiency of the hot irrigations.

As we all know, heat or cold act as counter-irritants, thereby increasing the blood supply to the part, increasing phagocytosis. And, as we further know, if the heat is high enough the bacterial action is inhibited or entirely destroyed. One's aim should be to get the patient to stand the increased heat necessary for the treatment to be effective. I know that I am conservative when I claim that sixty of the cases would in my own, or in any other hands, have gone on to operation under any other treatment.

A few of the cases were seen by men in consultation in which operation had been advised. Other cases came to me after an operation had been urged by others and refused by the patient.

In my earlier work the question in my mind, notwithstanding I was getting good results, was whether or not the cure would be permanent, or if I was subjecting my patient to a greater risk should the condition recur, but out of the whole number I had only two cases to recur and come to operation. One was an old gentleman who, four years later, had a very severe and rather protracted case of grippe. The other case was a young girl who, two years later, developed another attack and at operation we found a sclerosing mastoid. This is the record in the last twelve years, notwithstanding that some of the worst and most protracted cases occurred in my earlier work. So I think that one would be pretty safe in promising a permanent cure in the vast majority of the cases.

Practically all old, chronic, continuous or intermittent discharges will come to operation sooner or later.

While a few cases will apparently yield to the treatment, suddenly all symptoms return, and at operation we find a sclerosing mastoid. At no time should an opiate be given, as one may be lulled into a false security. My advice in all such cases would be for the earliest possible operation.

The hearing in all cases which get well with hot water treatment, even in the worst cases, is recovered, for the greater part, if not altogether. In some of the cases I have had to use inflation, but never institute treatment until six or eight weeks after all mastoid symptoms have disappeared. In many of the cases the hearing was recovered to such an extent that they did not return for the inflation or after treatment.

Now, as to danger or risk, there is absolutely none if the treatment is properly carried out. There is a marked improvement in from eighteen to thirty-six hours, but after this time one should not take any further chances, but should operate.

What class of cases would not be suitable for the irrigation? Bozolt's perforation, brain symptoms, eye-ground symptoms, slow pulse and the other symptoms which would indicate septic infection or blood clot. This class of cases are usually seen too late, and should, of course, be operated on at once. Another class that is difficult to determine is where the principal symptom is severe pain over the tip of the mastoid, with no redness or any other classical symptoms. This condition usually indicates a sclerosing condition of the mastoid, with increased danger of some brain complication.

Post-operative Treatment.—I shall not attempt to describe any operation, as it is not my custom to strictly carry out any classical operation. I always knock down the posterior wall of the canal and remove all diseased bone and other tissue. I then clean thoroughly the auditory canal and external wound with dry sterile gauze and swab the cavity with 20 per cent argyrol.

I first pack the auditory canal firmly with sterile gauze in order to press it back into its former position. I usually take one or two stitches in the upper angle of the wound, and the cavity is packed firmly with gauze and my dressing completed. I do not disturb the dressing for four or five days. Sometimes the external dressing becomes saturated with blood and after the blood dries and the dressing is uncomfortable I change the external dressing, but do not disturb the packing in the auditory canal or the cavity. At the time of the first dressing the wound or cavity should be lined with granulation tissue, but if not, the external wound should be packed as before to stimulate granulation. If the granulation is sufficient, cleanse cavity by mopping with dry gauze and allow it to fill with blood and wait five to ten minutes for the clot to form.

Sterile gauze should be laid over the wound and the dresing completed, then the auditory canal mopped with cotton on probe; dry again, remove blood that has trickled into the canal and after thus cleansing the canal a gauze wick is introduced well down into the drum for drainage.

After the first dressing the patient may be allowed to leave the hospital, and the dressing not disturbed again for four or five days, when at the next dressing, if the wound has been clean, one should have a well organized blood clot filling the cavity.

However, if the cavity is not completely filled, as sometimes occur from leakage through into the auditory canal, the surface should be gently irritated by dry, sterile gauze, the cavity allowed to fill, and a second clot to form and the dressing completed as before and not changed for four or five days, when the wound will practically be well and entirely healed except the skin surface over the cavity and lower angle. At the next dressing a small gauze wick saturated with argyrol solution (20 per cent) should be inserted into the auditory canal at least once a day, until the discharge from the middle ear stops. The external wound should be dressed with a small piece of gauze held on by adhesive straps.

In one case I failed to see to it that a large enough opening was left in the drum, and several days later got an infection of the blood clot with a small sinus running through its center, but with a cotton-tipped probe saturated with argyrol solution the sinus was cleansed and the wound dressed with a small piece of gauze. Notwithstanding the infection, the case went on to recovery without the clot breaking down, and was dismissed in twenty-one days.

The cases operated on by me in the last twelve years or more have all been chronic except three or four, and where I have been able to control the cases have completely healed from ten to twenty-one days and with from four to nine dressings, counting the skin dressings.

What are the advantages of the secondary blood clot?

First, instead of the usual daily dressing for six to eight weeks, in the majority of cases it takes from four to six dressings.

Second, you get a small linear scar hardly noticeable, instead of an ugly scar and, often, a sunken or pitted depression over the area of the cavity.

Third, while most of my cases were chronic and the hearing was very much impaired before the mastoid inflammation, I am inclined to feel that one should recover more of the hearing—at any rate the hearing is certainly no worse—than we get in any other after-treatment. One must, of course, run the risk of an infection and breaking down of the clot, but in such event I would simply curette the infected area and if not advisable to try clot there would be little time lost by the use of a clot.

So far, I have had no return of the mastoid disease, even though some of the cases have been operated on ten or twelve years ago. The fact is, I have about reached the point that I am almost ashamed to acknowledge that I have ever had to operate on the chronic cases, and I most certainly feel very much chagrined when I have to operate on an acute case where I cannot get the patient to submit to the irrigation treatment.

LOW BACK PAINS.

By Adam G. Nichol, M. D.,
Nashville.

The great prevalence of pains in the lumbosacral region and the frequent misinterpretation of their significance, are the reasons for the presentation of this paper.

It would not be possible at this time to consider at length the many conditions that are presumed to produce low back pains, and remarks will be confined mainly to the disorder which I believe is more often responsible for this distressing train of symptoms than all others combined.

To correctly appreciate the position taken it is necessary to refresh your minds briefly with the anatomy of the sacro-iliac articulation.

Goldthwaite first systematized our knowledge with reference to these joints and their physiological characteristics. These are joints in the true sense of the term; possessing synovial membranes and bathed in synovial fluid. The joint surfaces are large, irregular, and held firmly in contact by strong ligaments, and directly supported by the muscles of the back and pelvis. There normally exists a certain degree of motion with all the marked movements of the trunk and the joint is physiologically relaxed during menstruation, pregnancy and labor. It is important to bear in mind the relationship of the sacral plexus to these joints, which knowledge will enable us to account for many symptoms associated with sacro-iliac pathology.

As far back as the memory of man goes, chronic low back pains in the female have been attributed to various displacements of the pelvic organs, but this idea is being abandoned because of more careful study by many observers, such as Cabot, Dercum, Richardson and others. Though lumbo-sacral pains are not directly due to pelvic disease, still it is reasonable that there may be, and often is, pelvic pathology coexistent with the low back pains.

The frequent association of these two conditions is explained, and reasonably so, by Richardson, upon static grounds; that the individual with intrapelvic inflammation assumes a strained attitude in an effort to protect the tender tissues from irritation, and that this tense posture, long continued, will eventually result in a definite strain.

These views are not universally accepted, but from my own experience in both private work and the out-patient department of Vanderbilt University, I feel that this view is almost, if not entirely, correct.

Through the kindness of Dr. Gallagher of the Department of Gynecology, it has been my privilege to see quite a number of women suffering from low back pains, associated with various pelvic disorders. In merely supporting the pelvic articulations, these patients have invariably expressed their satisfaction in the relief experienced.

It may be aptly said at this time that, regardless of the position taken upon this subject, it is for the best interests of our patients that the gynecologist and the orthopedist "get together" before any radical procedures are adopted.

It is equally reasonable to assume that the same position may be taken with reference to many genito-urinary disorders, that the lumbo-sacral pains are not directly due to the existing lesion, but rather to static disorders resulting from the unconscious effort of the patient toward the protection of the sensitive parts.

From a neurological standpoint, cord, meningeal and nerve disorders must be considered as productive of the low back pains and often associated symptoms will point toward a correct conclusion; however, sciatica, long considered a definite entity, has been proven in 90 per cent of the cases in Massachusetts General Hospital, to be due to disturbance of the sacro-iliac joint.

Women, undergoing frequent pregnancies. prolonged anesthesia in recumbency, long illnesses and occupations requiring the stooping posture all tend towards the production of backache, because of the strain produced upon the sacro-iliac articulations.

Violent exertion in lifting, especially when the individual is in an unstable position, will often produce strain of a more acute character, and will frequently completely disable an individual. Direct violence may also be a causative factor.

The symptomatology is not, as a rule, complex. In the more chronic forms there is a dull, aching pain over one or both sacro-iliac articulations, and there may be pains referred to in the region of the hip or back or thigh.

Upon arising from bed or from a chair, the patient experiences a sensation of stiffness and pain, which may be alleviated after a period of exertion and return again after a period of rest. The referred pains are at times distressing, and are often attributed to other causes. In the more acute types of cases, especially following trauma of direct or indirect violence, there is a greater laxity and not infrequently a rupture of the ligaments, and even a displacement. In a case of this type, the symptoms are distressing and completely incapacitate the individual.

In the traumatic type, a careful inquiry will usually elicit a specific cause for the injury.

In examination, the patient should be stripped when possible, and the posture should be carefully noted. In the milder cases, there is usually no noticeable variation of the trunk, but in those of a severer type there is a list of the body, in cases of unilateral involvement, toward the side opposite the injured joint, and the shoulder of the injured side is perceptibly lower than its fellow. Assuming the stooping posture is painful and may be impossible.

Straight leg flexion of the injured side is limited and painful. There is frequently tenderness over the joint. It is said that increased motion can be detected, but I must admit that the delicacy of my touch has not yet reached that acme of perfection. The x-ray is of little value, except in marked displacements.

The treatment of these cases is directed toward the placing of the offending bones in their proper relation and maintaining this relationship for a sufficient length of time to allow the tissues to return to normal.

In milder cases it is usually sufficient to hyperextend the body and apply adhesive strips across the back of the pelvis, extending from the upper margin of the greater trochanters upward to the iliac crests.

In the severer types it is often necessary to forcibly hyperextend and make heavy counterpressure over the sacrum to correct the misplacement that may exist, and, in some instaces, general anesthesia is advisable, that we may obtain complete relaxation. In applying adhesive straps, the patient may be placed face downward upon two chairs about eighteen inches apart; chest rests upon one and the upper portions of the thighs upon the other, the pelvis being allowed to dip into the space between. Firm fixation may then be secured by placing two straps, sufficiently long to go across the pelvis; one end of each is fixed to each anterior superior spine, and these are drawn simultaneously over the back of the pelvis, crossing in the center of the sacrum and fastened at the upper margin of either trocanter. The exposed portion is filled in by firmly applied strips, being careful to leave no small intervening spaces. Avoid wrinkles. Should the condition be of the chronic type and long continued support necessary, one of the numerous pelvic supports is advisable.

All of these are built upon practically the same lines, and consist of a sacral pad with straps about the pelvis upon either side, fastening to an abdominal pad of firm material. Should there be a tendency to slip up, perineal bands may be added.

This treatment has been effectual and has relieved many a chronic sufferer.

A PROGRAM FOR ANTI-TUBERCULOSIS WORK.

By H. H. Shoulders, M. D.,
Nashville.

Our literature on the tuberculosis problem has multiplied into volumes, and from volumes into masses of volumes. Scattered through it we find excellent treatises on various phases of the problem snatched out and treated separately, as if they were each a thing apart from the whole. We find excellent treatises bearing upon the etiology of the disease, and upon the regimen of treatment, but there fails to occur any definite plan whereby the combined energies of anti-tuberculosis workers may be hitched to the large problem as it is. There seldom occurs any definite attempt at an accurate portrayal of the community conditions which obtain.

We have many tuberculosis conferences; we invite lay people to attend; they do attend, and it is very necessary that they should attend. They are impressed with the fact that "something should be done." They leave such conferences with an enthusiasm for work that amounts almost to a passion, but when they arrive home they find themselves without any definite line of procedure whereby they may attach their energies to the great problem as it exists in their respective communities. They become the easy prey to whatever suggestions are offered, and their energies are scattered, and in most cases practically wasted. The advanced cases of the disease in the community at once elicit some sort of attention. They look upon the advanced case of the disease as the problem in itself, forgetting that the advanced cases constitute only the one end of it, or a small side of it. One forgets that the larger phase of the problem is the people now living with the lesions which will be advanced ten years from now, and that the influences which contribute to the advancement of these cases are the influences he must really reach if his energies are to have a bearing upon the ultimate reduction of the number of advanced cases, with a corresponding reduction in mortality. I have often been approached in the following manner: "I am chairman of the Public Health Committee of the Woman's Club of my community. Would you suggest something that we could do in the fight on tuberculosis? We will distribute literature or do anything."

The condition of affairs has caused me to look the situation over with a view to evoluting a plan of procedure, adaptable to the conditions at present existing in the average community which would afford ample room for the energies of every one interested and at the same time cause such local investigations to be made by such persons as would serve to give the man interested accurate conception of what their local problems are.

However much we laud our anti-tuberculosis efforts, there is as yet small comfort to be gotten from mortality tables. We have seen typhoid mortality tables cut in two several times. We have seen similar results follow efforts devoted to the prevention of other diseases. But not so with reference to tuberculosis. Again I say, then, that though we have been, in a way, at the job of preventing tuberculosis for more than thirty years, we have not progressed very far in so far as results are shown in mortality tables. These facts suggest at least that our energies might have been more effectual if directed along different lines.

Before outlining the program that is recommended, it is necessary that we correctly correlate and interpret the scientific and sociological facts related to the problem, especially those facts which stand out prominently in the picture. We have so often defined tuberculosis as an infectious disease caused by the tubercle bacillus, characterized by loss of weight, strength and color; cough, pain and expectoration, etc., that we lose sight of the larger problem.

There is not another disease into the production of which so many potent factors enter as is the case with tuberculosis, nor is there another disease so widely distributed in the animal kingdom and so deeply rooted in our very life as is this disease.

Tuberculosis is an infectious dicase, certainly; but it differs from most every other such disease in certain essential respects. If a person contracts the infection of typhoid fever and passes two weeks time without developing the disease, the danger is regarded as past, in so far as that infection is concerned. In the case of tuberculosis the infection is contracted in childhood, and 10 to 20 years later may produce a fatal tuberculous lesion. It is now generally conceded that the infection which most endangers life is contracted in childhood. The average age at death from tuberculosis is about 35 years. So the infection lingers for years, and in the vast majority of cases without giving clinically recognizable evidence of its presence.

It is generally conceded that what is called household exposure constitutes the greatest source of infection, and the most dangerous source.

Hygienic living, we know, will arrest the progress of the disease when not too far advanced. Hygienic living will certainly arrest the progress of lesions not so far advanced as to be recognizable.

We are, in fact, in all these analyses brought back to the fundamental fact that the force known as *resistance* is the factor which, after all, determines the fate of any individual—with the *quantity* and *virulence* of the organism having some bearing, the relative importance of which cannot be determined practicably.

The foregoing are what we may regard as the big and essential scientific facts. It is necessary that we consider what may be regarded as sociologic facts also. Of the first importance are the following:

In a vast majority of cases the disease has progressed to an advanced stage before it is clinically recognized. This means that dangerous household exposures have already taken place in these cases before steps are taken to prevent such exposures. The question of early diagnosis of tuberculosis has occupied prominent space on medical programs in recent years, but when considered broadly we are forced to say that the presence of tuberculosis bacilli in the sputa is the finding upon which, as a rule, diagnosis is made. This means, of course, not only a case, but an advanced case with an open lesion. Then again, I say that dangerous exposures have already taken place, even before the disease is recognized, much less taken charge of.

It should also be mentioned in this connection that children in the susceptible age are, of course, exposed, and in addition may have a relatively low resistance, owing to hereditary predisposition. This places them in the group which we will regard as "potentially tuberculous."

There is no very extensive plan of isolating advanced cases in operation at the present time, nor is there basis for hope that there will be such plans in operation at an early date.

From mortality figures we can form a fairly accurate conception of the magnitude of the problem as it exists in the state of Tennessee.

There were 4,124 deaths from tuberculosis in Tennessee in 1916. Approximately this number of deaths doubtless occurred in 1917, and will occur in 1918, which means that there are on hand at all times at least 4,000 cases of tuberculosis sufficiently advanced to die within twelve months, and 4,000 more sufficiently advanced to die within two years. It is also reasonable to assume that there are the children who will furnish a majority of the advanced cases of tuberculosis within say ten to fifteen years. It would be rational to regard each of them as a potentially tuberculous child, and so treat them.

It is noted that we have employed the rather indefinite designation "potentially tuberculous." It is done deliberately, for the reason that so long as we have no practical means of making an early clinical diagnosis it will be necessary for us to weigh probabilities and treat them as what they most probably are.

If within this rather limited group are a majority of those who will develop advanced lesions in later life, we are certainly justified in so treating them all to make sure that those most needing attention will get it, and on the broad stand that all will be benefited. If we can arrest the progress of the case that has advanced to the point of being recognizable by following a regimen of hygienic living, we can certainly arrest the progress of lesions not nearly so far advanced by the same procedure.

It is therefore believed that if our energies were directed at the potentially tuberculous children at present on hand, we would go far toward reducing the number of advanced cases ten years from now, which would automatically reduce mortality. Our policy is "Strike the blow before the disease strikes its blow and effects a knockout." It is not too much to assume that if the proper effort were put forth it would be possible to get this potentially tuberculous group of individuals to adopt hygienic habits of living, and that such would have not only a wholesome effect on their life, but upon the life of all who come in touch with them.

It should also be stated in this connection that the attention, medical or sociologic, if you wish to separate the two, given advanced cases at the present time, has but a slight bearing upon the problem of prevention.

The main purpose of this plan is to get in touch with the *potentially tuberculous* population, and to concentrate energies looking to the improvement of their surroundings and habits of living, and with the view to correcting abnormalities which may predispose to the development of an advanced tuberculous process. This can be done without interfering in the least with any local plans in operation which have as their object the proper handling of an advanced case. Too, every local energy of whatsoever character can be utilized locally to great advantage.

For instance: Given a group of potentially tuberculous children in any county, the Mothers' Club or any sort of local organization could appoint certain persons to visit certain members of the group with the view to looking into their conditions and administering aid.

If ventilation is bad; if food is of poor qual- aid can be given If adenoids are present, ity; if clothing is not sufficient, the proper the doctor's aid can be sought, etc. This would have a very wholesome effect in that those who take up such work would themselves become familiar with the conditions in their own communities.

The Plan.

The plan is as follows: The certificate of death is the nucleus, or starting point. Certificates of tuberculous deaths are transcribed and placed in separate volumes and numbered. A questionnaire is sent to both the doctor last in attendance on the deceased and the informant whose name is given on the death certificate. The same questionnaire goes to both, and a follow-up system is employed, with the view to getting 100 per cent of replies.

The information most particularly sought is in reference to exposures. The names, ages and addresses of children who lived in the same house with, or were frequently in the same room with the deceased before death.

Also information bearing upon the previous history of the deceased is called for on the blank here reproduced. This does not relate to the plan, however. It is purely investigated. Children intimately exposed to an advanced and fatal case are to be regarded as potentially tuberculous, of course.

Suitable literature can be immediately forwarded to this list of children, and suitable lists can be furnished local anti-tuberculosis agencies with instructions as to procedure. The parents or guardians of such children can, both by literature and by personal appeal, be impressed with the importance of the adoption of a hygienic living for the youngsters.

The extent of effort would be limited only by the co-operation of anti-tuberculosis agencies. This list of potentially tuberculous persons would be enlarged each month and each year just in proportion to exposures. They could be checked against the list of tuberculosis deaths as the years go by. A follow-up system could be employed to keep the central department of health in touch with each one as the years go by, at least until the age of greatest liability to death from tuberculosis is passed. This list would constitute the mailing list for all anti-tuberculosis literature.

If it is to be admitted that educational efforts are of value in our anti-tuberculosis crusade, it would certainly follow that educational effort directed at those known to be in the greatest need of such instructions would be of most value. An additional advantage is that these children would be impressionable—that the greatest good from energies employed would be accomplished.

If it is to be admitted that personal visits are of value, then personal visits that will aid those known to be in danger would be of most value.

If hygienic living is of value in arresting the progress of a tuberculous lesion, then hygienic living will certainly arrest the progress of a lesion in its very incipiency.

This plan offers a means of attaching the energies of all anti-tuberculosis agencies to the problem as it exists. The adoption of this plan need not lead to the cessation of activities directed at the cases already advanced. It simply broadens the scope of our tuberculosis activities so as to include the potentially tuberculous ,and, in addition, affords a program for the adoption by any local agency, whether large or small. It serves to segregate out anti-tuberculosis work, and permits of concentrated energies where there is the greatest hope of accomplishing the greatest good for the future.

COMPLETE INTESTINAL OBSTRUCTION FROM CARCINOMA OF THE SIGMOID AND RECTUM.

By W. D. Haggard, M. D., F. A. C. S., and
W. O. Floyd, B. S., M. D.,
Nashville.

Complete intestinal obstruction occurs from many different couses. In the sigmoid it is usually due to neoplasms or to a volvulus. Occasionally, however, we have adhesions or bands causing obstruction in this portion of the alimentary tract, but the differential diagnosis between obstructions due to bands or adhesions and those due to neoplasms may not always be entirely clear. In both instances the symptoms may extend over a period of many months or even years in some cases, and are quite similar in character, but as a rule bands or adhesions do not give the bloody stools, which are noted in the carcinomas, which is the usual type of neoplasm encountered in the sigmoid and recto-sigmoid junctoin. The differential point in the diagnosis between obstruction due to neoplasm and that due to a volvulus is the sudden onset in the volvulus. There is no long history of constipation, obstipation, blood in the stools with or without abdominal pain or discomfort, nausea or vomiting.

This paper is presented for the purpose of considering the rather definite set of symptoms of operable carcinoma of the sigmoid and rectum in order that a proper diagnosis may be made before complete obstructive symptoms have occurred.

We have been very forcibly impressed during the last few years at the number of cases of complete intestinal obstruction from carcinoma of the sigmoid and rectum coming under our observation for emergency operation without a diagnosis of the carcinoma having previously been made.

In the literature for the past six or eight years practically nothing has been written on this particular subject. C. H. Mayo, in speaking of malignancies of the large bowel, says that, "Sudden and complete obstruction may occur without appreciable warning to the patient, and that these cases are often brought into the hospital in a moribund condition." Several of our cases were in a moribund condition when they came in, but in going over their histories carefully we found that every case had had appreciable warning, and every case save one, No. 4, had had the family physician many months before obstruction became complete, and several of them had had consultants with the family physician, and yet no diagnosis had been made. Case "four" was a young man twenty-four years of age, with symptoms of one year's duration, and diagnosis could have been made five months earlier, but he did not call a physician until three days before an annular carcinoma of the recto-sigmoid junction produced a complete obstruction.

We wish to report five cases somewhat in detail and two others in general. Six of the seven cases having been explored and the carcinoma demonstrated at the time of operation for relief of the obstruction—while the other one refused enterostomy and being in such a poor physical condition, he could not withstand a resection, the diagnosis could not be absolutely proven, although he had all the symptoms of a carcinomatous obstructive lesion.

The brief history of these cases and the order in which they came into the hospital is as follows:

Case 1. J. T. H.—A female patient age 50. Admitted to St. Thomas Hospital on October 17, 1913, giving the following history: For nearly a year patient could not stretch out the left leg without a pulling painful sensation in her left side, which gradually got worse until patient had been forced to sleep with a pillow under the left knee for several months. For past ten months patient would have spells with the bowels and pass nothing but black blood for a period of three or four days at a time. For the past six months she would often have vomiting spells at the time of the blood from the bowels. For the past four months has been noting gas in the bowels passing over to the left side, and then going back.

It seems that it could not pass. For the last two months had great difficulty in getting bowels to act. She had a slight action six days ago—none since—although she has taken practically every known purgative and used enemas repeatedly. The patient has lost forty pounds in weight in the past eight months. Has had but little pain, save when tried to straighten lower left limb, although there has been discomfort in the left side for the past few months. No elevation of temperature. Patient came to Nashville two months ago to see Dr. Haggard, but during his absence saw one of the internists, who had another surgeon in consultation, but no diagnosis was made, and patient was allowed to go back home without even having the colon x-rayed. The patient is now suffering from an acute obstruction and the seat of the trouble is believed to be in the sigmoid. An immediate exploration through a left-sided incision revealed a large napkin-ring carcinoma of the sigmoid. The liver was studded with metastases. A colostomy was done. The patient lived some ten months.

Case 2.—Mrs. J. T. F. Age 50. Came into the hospital December 16, 1913, giving the following history: Six months ago had an attack of general abdominal colic. Cramps were very severe, and vomited many times. Was in bed several days with soreness over the entire abdomen, but especially tender in the left side. Patient took many purgatives, and strained a great deal to get the bowels to act. No blood and no fever at that time. Two months ago had a second similar attack—in bed ten days. Very tender in the left side and had blood in the stools for one or two days following large doses of calomel. She has also had two or three lighter attacks during past two months, with pain and tenderness always in the left side. The present attack began eight days ago, but the bowels had not acted at that time for four days. Pain and cramps were in the left side, but only required two ⅛-grain tablets of morphine during the past week. Salts, oil and enemas failed to get a bowel action, and the abdomen became distended, and the patient vomited daily. She had spent the past two days in a hospital elsewhere before being sent to us. Has lost considerable weight during the past ten weeks, during which time patient has had her greatest trouble, her physician attributing her condition to malaria, as she had felt bad every other day much of this time, although she had had no chills nor fever. It was quite evident that her trouble was sigmoid obstruction, and malignancy was at once suspected, and which proved to be a napkin-ring carcinoma at this point, which was resected by the Mayo method, but the mild grade of nephritis which existed at the time of operation developed acutely on the fourth day, and the patient died on the eleventh day with complete retention of urine from an acute infectious nephritis which had become engrafted upon her primary condition at the time of operation.

Case 3.—Mrs. J. W. R. Age 54. Came into the hospital on November 8, 1915, with the following history: Patient had suffered with great constipation for many years, with bleeding at times. For the past several months patient noticed that the stools were auger-shaped, and often accompanied with much blood, which she supposed came from hemorrhoids. She was up and about, and had no pain until a week ago, when she began to have abdominal colic, and although the patient kept at work, she noted two or three days later that the bowels would knot up when the colic was bad. Her physician gave morphine for relief, but continued to give purgatives despite the fact that the patient had already taken freely of them without any result. Finally ,a second physician was called, and by this time visible peristalsis had pointed out the diagnosis of obstruction, and the second physician, after a rectal examination, really arrived at a correct diagnosis, and the patient was brought into the hospital, although practically in a moribund condition at the time. The diagnosis was confirmed at an immediate operation for relief of the obstruction. Later, a Kraske operation was done, and the patient is still living—two years and five months later—but has recently returned with an inoperable local recurrence, the neoplasm having been quite extensive at the time of the first operation.

Case 4.—J. H. A male patient. Age 24 Came into the hospital on January 20, 1917, giving the following history: About a year ago the patient had la grippe; following this, he noted frequent slight cramping pains in the lower abdomen, which often caused some nausea, and always associated with constipation, and always relieved by free purgations. Five months ago condition became worse and occasionally patient would vomit during these attacks of nausea and colic, and began to notice a tumor formation in the left side, which always disappeared after bowel movements, and occasionally in a few minutes, even without an action. Patient never gave his condition much serious thought, and kept about his work until three days ago, when he began with a light cramping in the lower abdomen. He had nausea and vomiting, which has continued for the past three days, during which time the patient has had no bowel action and the abdomen has become quite distended. The patient has been up and down in bed for the past two days, but has had no fever. He has had no loss of weight, nor strength, and he feels as well as ever, save when these little cramping spells come on, and only called a physician during this attack. Intestinal obstruction was diagnosed, but the real pathology was not suspected in a patient so young, and we were surprised at operation to find a carcinoma at the recto-sigmoid junction, causing the obstruction, together with large masses of carcinomatous glands in the pelvis, and about the left iliac vessels. There were also many glands in the omentum, the portion including the most of them we amputated at the time of operation, which consisted primarily of a colostomy for relief of the obstruction, and this was followed a few days later by a Kraske, with a clean sweep of the pelvic glands. This patient lived for more than a year in comfort, and practically free from pain under x-ray treatment, but has recently died from obstruction due to a complete carcinomatosis of the abdominal viscera.

Case 5.—R. J. M. A male patient. Age 73. Came into the hospital May 28, 1917, with the following history: For the past six or seven years patient has been having attacks of obstinate constipation lasting three or four days and requiring much purgation for relief. This condition has been much worse for the past four months, when patient began to pass a little blood with the stools. The patient at that time always required purgatives for an action. The patient consulted a physician, who gave some medicine, without examination, and the patient kept up until four days previous to entering the hospital, but had no bowel action for two days before going to bed. The patient then took three large doses of salts during the next day or two, but still no results, and again the local physician was called. He found the patient distended and a tympanitic tumor in the lower left quadrant. Enemas and further purgation failed to get fecal material, but the enemas were returned with some blood and mucous, while the purgatives served to increase distention of the abdomen and to set up a visible peristalsis, which finally enabled the physician to make a diagnosis of obstruction, but evidently not suspecting the real pathology. We at once diagnosed a malignant sigmoid, which was verified by a rectal examination, and confirmed when a colostomy was done for the relief of the obstruction. Of particular interest in this patient's case was the fact that he had a complete obstruction and yet had not had sufficient pain to require morphine, nor had he had any vomiting, although he had spit up his food for the past day or two. Later, he had a resection of the rectum by the Kraske method, and died five weeks later of a secondary gas-bacillus infection (demonstrated by culture).

In addition to the above cases, we have had two other cases worthy of mention in connection with this paper, the first of whom was a male patient—age 82—who entered the hospital on May 19, 1912, with a complete obstruction, and who had all the evidence of a malignancy producing it, with a history dating over many months, but he was in no condition for an x-ray examination, nor was he able at that time to withstand a resection, and as he refused an enterostomy, the diagnosis could not be confirmed, and he was allowed to return home, where he died within the next two or three days from his obstruction.

The other was a woman about forty-nine years of age, who came into the hospital in 1914 and whose records we were unable to find; but, briefly, the facts were these: Her trouble had extended over a period of many months ,and consisted of a left-sided discomfort, which was accentuated into cramps or colic at times, with obstipation and blood in the stools, and relieved by bowel movements. Recently, the patient had noted some left-sided tumefaction, and had lost both weight and strength. She was in a moribund condition when we saw her, and although we relieved the obstruction by a simple enterostomy of the sigmoid just above the suspected and demonstrated carcinomatous lesion, the patient died within a few hours from a toxemia due to the obstruction.

Now, considering briefly the interesting points in the above histories, we find that three of the patients were males and four were females. Their ages varied from that of a young man twenty-four years of age to that of an old man of eighty-two. The duration of the symptoms varied from six years in case "five" to that of six months in case "two." Cases "two" and "four" had no pain requiring morphine, until obstruction was complete. While cases "three" and five" never had any pain until complete obstruction had manifested itself, but all cases had had more or less left-sided abdominal discomfort some months previous to obstruction. All of the cases, save "five," had had more or less nausea and vomiting before obstruction occurred, while only one case gave a history of any elevation of temperature in any of the former attacks. Every case gave a history of blood in the stools, varying from two to ten months, save number "four," and he gave a history of left-sided tumefaction at the time of attacks for the past four months. Every case was in the so-called "cancer bearing" age, save one, and practically every case had lost considerable weight during the last few months.

CONCLUSIONS.

First that intestinal obstruction from carcinoma of the sigmoid and rectum is preceded by a very definite set of prodromal symptoms.

Second that these symptoms consist of attacks of colic, nausea, and vomiting, without elevation of temperature, with a left-sided tenderness or tumefaction, with or without much pain, and with constipation, obstipation, loss of weight and blood in the stools, over a period of a few to many months.

Third, that with these symptoms, especially in a patient within the cancer-bearing age, an x-ray examination of the colon should be made, and even if necessary an exploration to determine the diagnosis before complete obstruction has occurred.

Fourth, with carcinoma, undisturbed, being one of the most deadly conditions known to the physician, why should we, with the above symptoms, allow our patients to go undiagnosed until obstruction actually occurs, which within itself, without operation, is one of the most rapidly fatal lesions encountered within the abdominal cavity, and which with operation, carries with it one of the highest mortality rates known to surgery?

DISCUSSION.

DR. J. A. CRISLER, Memphis: Unfortunately, I did not hear the first part of this excellent paper, and did not quite get the trend of it. In other words, I did not get just the lesson that the paper was perhaps intended to convey, unless perchance it is the same old important lesson of early diagnosis in cancer of the bowel, as well as elsewhere, and particularly here. That being the case, the doctor has put the matter before us in a strong and striking manner. He has shown us almost the futility of surgery in these advanced cases of cancer. Relief in the cases cited by him—and I understand these cases were advanced—was almost so unpromising and of such a short duration that it makes one hesitate to even do a colostomy and attach much promise to it.

The old, old story of an early diagnosis of a malignant condition is forever before us. That is the answer to cancer as we look at it today. Our great research men, our pathologists, our chemists, our physiologists, and physicians generally have gotten that far and no farther on the cancer problem. Diagnose cancer early and you can cure it. Diagnose cancer before the important lymph channels have been infiltrated by carcinoma cells, or before they are affected before they are affected beyond our ability to relieve them, and we can cure these cases. I hope Dr. Floyd will be able to help us to know how to diagnose cancer of the descending colon or any part of the descending colon early enough to warrant us in offering surgical operation for the relief of the patient. It seems to me, perhaps with barium and buttermilk and some other method of filling the intestines, so that the x-ray may be made of value, would be worth something, but necesarily it would be rather late before you see enough shadow there to warrant you in basing your diagnosis upon that finding alone. The doctor speaks of the bloody stool occasionally and the cramp, and some prodromal symptoms as they may be called, but perhaps none of these are of sufficient gravity and of such importance to the patient himself to warrant him in going deliberately to a physician and asking for a diagnosis of his condition. If a man shows early evidences of something like cancer—in other words, if his physical condition responded to the invasion primarily with great pain like he would have in a gall-bladder colic or an acute appendiceal pain, we might do that, but it is almost improbable for us to think that a man would go to a professional diagnostician and ask him to exhaust all the resources at his command simply because he had occasionally a bloody streak in his stool and occasionally an obscure colic in his abdomen. Such patients do not do it, consequently, as Dr. Floyd so beautifully mentioned, these cases come to us practically hopeless, and if his paper can cause any of us to awaken to the real responsibility that confronts us in these cases, so that we can get at them early enough, surgery would be relatively as easy as any other resection, or rather resection for any other cause in the alimentary tract.

The great lesson that the paper brings us from my point of view is to emphasize to us the great importance of making an early diagnosis in these cases, and I appreciate it very much.

DR. JOHN L. JELKS, Memphis: I did not hear all of this excellent paper, but I certainly got here in time to hear some of the important points brought out, especially the point of making an early diagnosis.

In the first place, let me allude to some facts relative to the prognosis. Cancer of the sigmoid seems to be latent for a long time, and may involve almost any part of the colon. It is later in its metastasis than is cancer in some other localities.

The diagnosis of cancer of the gut, especially of the rectum and sigmoid, should never be waited upon until the appearance of bloody stools. Certainly, a diagnosis of at least a suspicious condition should be made by the proctoscope and the sigmoidoscope, and so on, long before these latent and late symptoms appear. If you have a suspicious obstruction, or a suspicious growth in the gut, it certainly should be watched very closely and at a very early period; for cancer anywhere should be operated on early. That portion of the gut should be brought up and two legs made there, and resection can be done with very little or almost a nil mortality. It is the delayed conditions, the toxic conditions that result in mortality from the operation, per se. If these operations are performed early, and by early I mean just as soon as they are diagnosed, carcinoma is curable in many instances. The majority of growths in the sigmoid, I believe, are carcinomatous. A man has no right having a patient coming into his office with blood and mucus coming from his gut to delay one hour proctoscopy and sigmoidoscopy, and if he cannot reach the source of the mucus and the blood-thereby, he certainly should use other means, such as the x-ray and whatever means he may select. It is a sad commentary that the majority of these cases that come to me for diagnosis are too late for radical procedures; fully 50 per cent of the cases that come to me with cancer of the rectum and sigmoid are too late for anything to be done, because metastases have already taken place in the liver.

DR. WILLIAM D. HAGARD, Nashville: The story that both Dr. Floyd and I tried to tell was the rather unusual experience of having six or eight cases of complete intestinal obstruction due to cancer of the sigmoid and rectum. It strikes me that in a limited experience it was a very large proportion, and it taught us a lesson, and that lesson is our inaptitude in examining carefully our cases of disease of the rectum and lower intestinal tract, and we are accustomed to see obstruction from many causes, but it is relatively rare from this cause, so far as hospital records are concerned, as a primary symptom. Every one of these cases had symptoms that were at least suggestive and many of which were diagnosable. One case in particular had been sent to the city for expert diagnosis, and was in the hospital for some days, but did not have proctoscopy or roentgenology, and as Dr. Floyd suggests, in these suspicious cases exploration should be demanded if nothing definite can be determined by other methods of examination. If we could transfer our exploratory incision on the right side of the body for so-called chronic appendicitis, which is a neurotic manifestation, to the left side in people who have blood nad pain due to carcinoma, I believe we could easily cure carcinoma of the sigmoid by a timely operation. Therefore, we think this recital of a group of six or eight cases of intestinal obstruction from delayed and neglected cancer is worthy of presentation.

DR. FLOYD (closing): We all recognize the fact that sigmoidal carcinomas are the most favorable of all alimentary tract carcinomas for operation, because, as Dr. Jelks has said, metastasis occurs late. The metastases occur slowly, and these cases are favorable for cure when they are diagnosed in time, and the prime object of this paper was to try to get together the set of symptoms we have noted as having existed in these patients for a number of months previous to their obstruction, and in every case one had been seen by the physician a number of months earlier. With no single symptom, as mentioned in these cases, could we arrive at the diagnosis. Constipation would not help in the diagnosis of cancer. Obstipation might not. The age of the patient might not. Blood in the stools might come from hemorrhage or ulcer high up, but with a getting together each one of these symptoms, I think we would have a set of symptoms that do appear many months in practically every case, which ought to enable us to suspect the trouble or to look for it or demonstrate it. With this set of symptoms in a patient of that age, we ought to be able to make a diagnosis. I may say one of the main points to be noted in this symptomatology is the absense or lack of any great pain. Whenever these patients continue to have this trouble with blood in the stools, obstipation, and light, colicky pain, not severe enough to require morphia, we know it is not an absolutely acute condition just at that time. It is something chronic that is troubling them, and that is characteristic of carcinomatous lesions of the sigmoid, and should stimulate us to look farther into these cases, and if they are diagnosed early enough, it is a very favorable condition for surgical procedure. It was this particular phase that struck us so forcbily in this limited number of cases, and that caused us to call your attention to the particular points connected with these cases.

GOITER.*

By Drs E. H. and J. P. Baird.
Dyersburg.

In discussing the question of thyroid enlargement and diseases, we do not expect to present any new thoughts along this line, but rather to emphasize the importance of the theories now well known to the profession who have taken the pains to review the literature along this subject. Since 1890, the papers and reviews have been so many and varied that it would be impossible to even quote from each of the papers.

But previous to that time the men standing out most prominently as having especially studied this subject and brought it before the profession, were not so numerous by any means as at a later period. As far back as 1786, Parry, and a few years later, other writers described the symptom complex known to us as exophthalmic goiter, but not until the work of Graves was published in 1843 did the term "Graves' disease" become associated with this condition. Kocher and many others contributed early to the literature on the subject.

The prevalence of thyroid enlargement, and the toxic condition found in others where there is not a great deal of thyroid enlargement, is not fully appreciated by a great many of us. As in other surgical conditions, the early diagnosis in this condition will more readily serve the best interest of the patient, which is our primary consideration. In some localities we find a greater number of these cases than in others, and at times we have what seems to be a mild epidemic of enlargement of the gland.

Anatomy.—The horseshoe shape of the gland and its extreme vascularity are the most striking anatomical features. Its position in the neck sometimes leads to the removal for cosmetic purposes. Its close proximity to the trachea sometimes produces pressure symptoms for which the patient may seek relief. The vascularity is very marked, and the entire blood supply of the body passes through the gland every hour; no other organ in the body is so well supplied with blood.

The close proximity of the recurrent laryngeal nerve produces the hoarseness that sometimes occurs from pressure of enlargement of the gland, injury to the nerve or scar tissue. Trabeculae of connective tissue form a framework for the alveoli and small vesiculae and support the lymph channels which probably serve as excretory ducts. Absence of the gland produces the condition known as cretinism.

The thyroid is a ductless gland whose definite function is an unsettled question. We know that the absence of the same retards the physical and mental development and produces the condition known as cretinism. We also know it has a marked influence on the metabolism of the body, its complete removal in man sometimes producing the condition of myxodema.

At certain periods of life, the gland is oftentimes enlarged. Its frequent enlargement at puberty in schoolgirls and sometimes in pregnancy should be considered physiologic and frequently subsides as this age passes. A great deal of experimental work has been done in recent years attempting to determine the physiology of this gland, and the main outstanding points demonstrated are that the gland contains a substance that has a marked physiologic effect, and that iodine is a constant secretion in the gland, both normal and diseased.

---

*Read before the West Tennessee Medical and Surgical Association at Jackson, Tenn., May 23, 1918.

Pathology.—Certain pathologic changes occur and a few remarks summarized from a paper by Wilson might be briefly studied here.

The most simple change that occurs is the hyperaemia due to excitement, either fear, fright or sexual. This may be followed by hemorrhage into the substance that later becomes cystic. The functioning cells of the parenchyma may become enlarged and produce chronic hypertrophy with sometimes an abnormal amount of secretory and excretory function. An increase in the number of cells may occur. This hyperplasia and hypertrophy is the condition associated with toxic exophthalmic goiter.

Adenomatosis of the thyroid is a condition of diffuse multiplication of the acini from Woelfers rests. This may be associated with the hypertrophy and hyperplasia, and in simple goiters which develop late toxic symptoms.

True adenomas are identified by their encapsulation. Colloid or simple goiters are caused by the retrogressive changes in which we have marked retention of secretion. Atrophy of the cells may occur or we may have malignant involvement.

Exophthalmic Goiter.—Plummer has recently called attention to the fact that there are two groups of toxic goiters, one exophthalmic and the other toxic, but non-exophthalmic. While the picture of exophthalmic goiter is fairly well known to the most of us, we are sometimes prone to arrive at a diagnosis too late to be of the most service to the patient.

The toxins sometimes affect the nerves and circulatory system some time before we get our exophthalmos, and many times this is early only manifested by a dropping of the upper lid or a slowness of action of the lower lid. The nervous manifestations often predominate. Some mild cases recover spontaneously, and some grow better under rigid hygienic treatment, the most important part of which is rest and quiet and a reduction of nitrogenous foods.

The administration of iodine is probably the oldest specific line of treatment, and while favorable in some of the simple hyperaemic varieties, it is harmful in the exophthalmic variety and in goiter of long standing in the adult it ofttimes produces an overstimulation and intensifies the symptoms. In the more severe cases where the symptoms are on the increase, rest in bed, reduction of diet and medical treatment will prepare the case so that surgical measures can be carried out successfully.

Ligation of the superior, and later of the inferior vessels may first be practiced, or injection of boiling water into the substance of the gland and during the subsidence of symptoms at a later period a thyroidectomy may be performed with safety.

Our practice is to do the ligation under novocain, but the choice of anaesthetic for the major work is ether, usually preceded by morphine and atrophine or morphine and scopolimine.

In the toxic non-exophthalmic varieties the enlargement is more chronic and the symptoms more insidious in their onset. While it closely resembles the exophthalmic variety in its nervous and heart manifestations, the eye symptoms are absent and the cardio-vascular symptoms seem to predominate, and it closely resembles in many cases the symptoms found in alcoholism, sepsis or some other toxemia. Iodine administered in this class of cases is harmful.

It must be remembered that we cannot always await perceptible enlargement of thyroid when the remaining group of symptoms are present, to make our diagnosis and begin our treatment of toxic thyroids.

A fatal case illustrative of toxic thyroids in this class of cases we carefully studied, even to post mortem examination, recently in the Baird-Dulaney Hospital. May 17, 1917, Mrs. B., age 50, entered the hospital, after several months' treatment, at intervals, for different troubles. These were variously diagnosed, from general neurasthenia to gastric cancer. Symptoms at different periods simulated a variety of diseases, and patient came to the hospital on a cot for diagnosis At first gastric and intestinal symptoms with tachycardia predominated. After many days of examination, various suspected organic diseases were eliminated by exclusion. At this time thyrotoxicosis was suspicioned, but diagnosis was a puzzle. Pulse continued to grow more rapid and reached 160 to 180 per minute. Vomiting became more frequent and thyroid was suspected, although hardly palpable, and no perceptible enlargement. Cerebral stimulation, slight tremor, loss of weight, diarrhea, and slight jaundice appeared in above order, and a slight evidence of the palpebral fissure and lagging of lid margins when following upward motion of eyeball appeared very slightly a few days before death occurred, at which time pulse was running 180 and above. Diagnosis too late for effective treatment. Post mortem showed thyroids very slightly enlarged (about 25 per cent above normal) and no other organic trouble in chest, abdomen or pelvis.

Operations on non-toxic thyroid are usually not severe and entail, as a rule, very little risk to life. Many patients wish to be relieved of the deformity or of the pressure symptoms on the trachea or the pressure causing hoarseness and sometimes neuralgic pains.

Hoarseness, due to injury of the nerve either during or previous to operation, occurs in a certain per cent of cases, but this usually clears up and is rarely permanent. The results from operations on simple goiters are well known to be satisfactory and gratifying to the patient and in the toxic varieties, the relief from the absorption of the toxins is found to benefit the patient; however, nervous systems destroyed or cardiac and vascular systems impaired cannot always be brought back to normal even with the relief of the absorption.

In removal of the glands we use the low collar incision recommended by most surgeons, use a subcutaneous tension stitch of 20 day catgut suture and close the skin with horse hair, with a small drainage tube for a few days as needed.

PERNICIOUS ANEMIA.

Edward Lindeman, New York (Journal A. M. A., May 4, 1918), follows up his very recent article in The Journal A. M. A., April 27, 1918, on the estimation of blood volume, with another on the total blood volume in pernicious anemia, where it is of as great or greater importance than in any other disease. He gives the figures of the total amount in the various organs, as stated by Ranke, and remarks on the amount of blood that may be lost before life becomes extinct. He thinks that we are apt to exaggerate the relationship of the teeth in this disease, and remarks that the symptoms are not necessarily relieved by restoration of the blood volume. He reports a number of cases in which his method was employed. In his comment on these cases he says he does not mean to convey the idea that it is only necessary to correct the blood pressure to efect a cure. His studies lead him to believe that the blood volume is always reduced in pernicious anemia, but when the reduction is only slight the symptoms, other than those referred to the nervous system, are borne with less distress but are increased proportionally as the volume is reduced. To increase the bulk is an important matter in the treatment. There are two ways to do this: first, by abundant fluid diet, preferably 2 quarts of milk a day; and second, blood transfusion. Even forced feeding of milk is advisable if the patient has an aversion to it. In many cases, however, the regenerative power of the blood is slight, and the patient will grow worse even with a relatively high blood volume. A large volume and a rich blood mixture are imperative here, and the only thing capable of providing this is transfusian of unmodified blood in large amounts, and no other therapeutic method has as much value. The normal blood volume in man, according to Keith, Rowntree and Geraghty, is 9 per cent., while according to Haldane and Smith it is 5 per cent. Lindeman believes the former observers are more nearly correct. One should guard against extravagant claims as to curing the disease, because of its tendency to recur even after many years, but with the new instrumentalities and procedures available, and with the more recent studies continued, a cure may be possible.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

SEPTEMBER, 1918

EDITORIALS

WE OFFER APOLOGIES AND EXPLANATION.

It is hard to get things done right these days. Everybody is busy and everything is "out of line." The employers of labor are annoyed beyond measure at the lightning changes in the personnel of their working forces, and the workers themselves are bewildered and unsettled by reason of the many demands that are made upon them. Everybody and everything is straining to the breaking point.

The Journal has been behind time; the Journal has been more or less full of errors of one sort or another. Everybody connected with the Journal—editor, publisher, printer and all—has done his best.

The explanation is made. Our apologies are here offered.

CAMOUFLAGE.

The call for volunteers in the medical service of the Army has brought out some stimulating examples of courage and patriotic loyalty; but it has also uncovered some cowards and unpatriotic slackers who are beneath the contempt of decent folk.

For instance: A man, so called, of the age of forty, able bodied and well equipped for good service, insofar as his preparation for the practice of medicine is concerned, with no dependents and with the medical needs of his community well provided for by reason of the presence of a good physician who cannot go into service, signs his application for membership in the Medical Service Corps and makes special mention of the fact that he prefers overseas service. As soon as his blank has been forwarded to Washington, he slyly proceeds to secure the services of several girls to circulate a petition among the people, begging the Surgeon-General to not deprive the community of the benefit of his invaluable and indispensable services.

Camouflage! Rotten camouflage!

And there have been others. The day of reckoning will surely come for all such.

THINGS THAT ARE CERTAIN.

There are two things certain about this war. One is that the United States is going to furnish whatever is necessary in the way of fighting men to win it. The other is that the Army and Navy are going to have the doctors necessary to the care of the fighting men.

There is another thing which we believe is certain, but which remains to be seen. That is that the doctors of this state and this nation are yet going to volunteer in sufficient numbers to make compulsory enlistment unnecessary. If our judgment in this matter is sustained, however, it is going to be necessary for our men to get into commission more rapidly than they have done during the last few months. Your enrollment as a member of the Volunteer Medical Service Corps does not prevent and is not intended to retard your application for a commission in the Medical Reserve Corps.

AN APPEAL FOR NURSES.

The following appeal to the physicians of America should meet with a cordial and prompt response. Read and heed! The nurses must be had.

To Physicians of America;

Surgeon-General Gorgas has called for 1,000 graduate nurses a week—8,000 by October 1.

Twenty-five thousand graduate nurses must be in war service by January 1—in the Army Nurse Corps, in the Navy Nurse Corps, in the U. S. Public Health Service, in Red Cross war nursing.

This involves withdrawal of many nurses from civilian practice, and necessitates strict economy in the use of all who remain in the communities.

You can help get these nurses for our sick and wounded men by:

Bringing this need to the attention of nurses.

Relieving nurses where possible wholly or in part from office duty.

Seeing to it that nurses are employed only in cases requiring skilled attendance.

Insisting that nurses be released as soon as need for their professional service is needed.

Seeing that your patients use hospitals instead of monopolizing the entire time of a single nurse.

Encouraging people to employ public health nurses.

Instructing women in the care of the sick.

Inducing high school and college graduates to enter the Army School of Nursing or some other recognized training school for nurses.

Encouraging nurses to go to the front involves real personal sacrifice and added work on the part of the physicians whose duty it is to maintain the health of our civilian second line defense—

But the men who are fighting for their country in France need the nurses.

Department of Nursing,
American Red Cross,
Washington, D. C.

SEND IN YOUR PAPER, PLEASE.

Several of the papers read at the last annual meeting have not yet come into The Journal. These papers were read with the understanding that they should be printed in The Journal, and if the scientific proceedings of the Association are to be made a record at all, should be forwarded to the editor without further delay. The simple truth is that there is not material on hand enough for more than two numbers of The Journal after this. It is, therefore, urgently required that all papers read at Memphis should be sent to The Journal at the earliest possible time.

TENNESSEE PHYSICIANS IN THE ARMY AND NAVY MEDICAL SERVICES.

M. D. Davis, Chattanooga; L. T. Stem, Chattanooga; A. J. Read, Chattanooga; J. O. Walker, Franklin, H. R. Skaggs, Knoxville; C. L. Davidson, Lexington, R. H. Denham, Lynnville; J. M. Stewart, Martin; G. T. Wilhelm, Memphis; H. P. Conley, Memphis; Frank L. Alloway, Memphis; Paul DeWitt, Nashville; Will C. Spain, Nashville; A. L. Sharber, Nashville; S. R. Teachout, Nashville; Hubert Harris, Newbern; L. O. Wilkerson, Stanton; M. B. Campbell, Gordonsville; W. C. McRee, Trenton; B. F. Donohue, Forestville; J. S. Beasley, Centreville; C. L. Swift, Madison; C. D. Allen, Memphis; W. C. McRee, Trenton; J. R. Shelton, Oliver Springs; J. C. Kimbrough, Madisonville; Millard Hudson, Sweetwater.

A FIVE-MILLION ARMY MEANS FIFTY THOUSAND MEDICAL OFFICERS.

With an army of three million men in the field or in training, and as contemplated, an expansion of this force to five million men, the Surgeon-General must have in the Medical Reserve Corps at least fifty thousand doctors.

The Medical Corps must keep a pace in growth with the army expansion, and it behooves every doctor in the United States between the age of 21 and 55, who is physically, morally and professionally fitted, to arrange at the earliest possible moment his personal affairs so as to offer his services to his country in the capacity of a medical officer.

The United States is in the war to do her part in winning the struggle, and this can only be accomplished by a large and well-trained body of troops adequately cared for by a sufficient number of medical officers. The importance of the doctor's service and its relation to the successful outcome of the war cannot be overestimated.

As the mobile forces increase in size, so is there an expansion of base hospitals and other institutions for the care of the sick and wounded, and there should be no lack of officers when required to give to our patriotic boys that professional attention which is so essential.

It is well for the medical profession of the United States to realize at once that a Medical Reserve Corps of at least 50,000 doctors will be required to meet the demands of the Surgeon-General, and upon which corps he can draw for his medical officers.

We believe by this time that the profession of this country must be fully alive to the needs of the service, so let every doctor who is qualified feel that he is doing not only his patriotic duty in offering his services as a medical officer, but is relieving the tension of the Surgeon-General's office by placing at the command of the Chief Officer of the Medical Department an adequate force without the frequent beating of drums to supply the necessary number with each increase of the mobile forces.

If you have not already received an application blank for commission in the Medical Reserve Corps, your nearest examining board or the editor of this journal will be glad to supply you.

THE VOLUNTEER MEDICAL SERVICE CORPS.

Every physician in Tennessee who is a graduate in medicine and who is legally qualified to practice medicine should have received an application blank of the Volunteer Medical Service Corps not later than September 3. Every physician in the state who received one of these blanks should have had it filled out, signed and on its way to Washington not later than September 4. There was a delay of one week in getting the blanks to Tennessee physicians but there could not have been one reason for any delay upon the part of any physician in signing and in returning the application. It has come to our ears, however, that there are a few doctors in the state who have withheld their applications. Surely, these must be laboring under a wrong impression as to the purposes of the Volunteer Medical Service Corps. If they are not, then surely they are simply the wrong sort, men who have no business in the medical profession and men who are not entitled to citizenship in a country like ours.

The man who goes into the Volunteer Medical Service Corps simply says by that act that he is ready to serve his country where his service can accomplish most for his country. The man who is not willing to place himself in this attitude toward his country is unworthy of its protection and unfit for its citizenship.

The applicant for the Volunteer Medical Service Corps obligates himself to do what he is asked to do, but certainly he will not be asked to do anything that is going to destroy him. He will not be given unreasonable assignments, he will not be treated unjustly. He may be called upon to make a sacrifice, even a very considerable sacrifice, but what of that? There are thousands upon thousands of men making greater sacrifice—men who have gone into the dangers of battle and men who are yet at home giving themselves entirely to such service as they can best perform.

We do not know what the purpose of our Government is toward men who are withholding themselves from the performance of their plain duty. We hope, as does every man with three drops of real red American blood, that, through some device, the slackers, wherever they may be found, will be dragged into the glow of public condemnation and that they will then be forced to do something menial, but which will yet be worth something toward winning the war.

VOLUNTEER MEDICAL SERVICE CORPS ORGANIZATION.

The Central Governing Board of the Volunteer Medical Service Corps of the Council of National Defense announces that the State Executive Committee of the Volunteer Medical Service Corps is comprised of the following doctors:

J. A. Witherspoon, M. D., Nashville; C. N. Cowden, M. D., Nashville; Olin West, M. D., Secretary, Nashville; Wm. Krauss, M. D., Memphis, C. J. Broyles, M. D., Johnson City; Duncan Eve, Sr., M. D., Nashville; George R. West, M. D., Chattanooga; I. A. McSwain, M. D., Paris.

The purpose of this committee is to co-operate with the Central Governing Board in prosecuting all activities pertaining to the mobilization and enrollment of members of the Volunteer Medical Service Corps throughout the state.

The Central Governing Board of the Volunteer Medical Service Corps also authorizes the appointment of one county representative in each county in every state of the Union. The county representatives for Tennessee are as follows:

(Select name of your county representative from county list enclosed.)

Anderson County, Dr. S. B. Hall, Clinton.

Bedford County, Dr. Tom Coble, Shelbyville.

Benton County, Dr. J. T. Freeman, Big Sandy.

Bledsoe County, Dr. W. H. Harris, Pikeville..

Blount County, Dr. J. A. McCulloch, Maryville.

Bradley County, Dr. T. J. McKamey, Cleveland.

Campbell County, Dr. W. R. Irish, Jacksboro.

Cannon County, Dr. B. P. Lester, Woodbury.

Carroll County, Dr. J. B. Cox, Huntingdon.

Carter County, Dr. R. A. Range, Elizabethton.

Cheatham County, Dr. J. B. Smith, Ashland City.

Chester County, Dr. J. R. Carroll, Henderson.

Claiborne County, Dr. H. C. Chance, Cumberland Gap.

Clay County, Dr. E. W. Clark, Lillydale.

Cocke County, Dr. R. C. Smith, Newport.

Coffee County, Dr. C. M. H. Farrar, Hillsboro.

Crockett County, Dr. C. T. Love, Alamo.

Cumberland County, Dr. V. L. Lewis, Crossville.

Davidson County, Dr. Olin West, Nashville.

Decatur County, Dr. T. Rogers, Decaturville.

DeKalb County, Dr. W. Byron Parker, Smithville.

Dickson County, Dr. W. J. Sugg, Dickson.

Dyer County, Dr. N. S. Walker, Dyersburg.

Fayette County, Dr. L. D. McAuley, Oakland.

Fentress County, Dr. J. N. Chism, Boatland.

Franklin County, Dr. T. B. Anderson, Winchester.

Gibson County, Dr. B. S. Penn, Humboldt.

Giles County, Dr. G. D. Butler, Pulaski.

Grainger County, Dr. O. R. Tomlinson, Tate Springs.

Greene County, Dr. S. W. Woodyard, Greeneville.

Grundy County, Dr. Douglas Hayes, Tracy City.

Hamblen County, Dr. D. E. Shields, Morristown.

Hamilton County, Dr. E. T. Newell, Chattanooga; Dr. T. E. Abernathy, Chattanooga; Dr. S. L. Yarnell, Chattanooga.

Hancock County, Dr. R. C. Stone, Sneedville.

Hardeman County, Dr. R. W. Tate, Bolivar.

Hardin County, Dr. C. G. Morris, Savannah.

Hawkins County, Dr. W. H. Armstrong, Rogersville.

Haywood County, Dr. J. H. Sevier, Brownsville.

Henderson County, Dr. W. F. Huntsman, Lexington.

Henry County, Dr. I. A. McSwain, Paris.

Hickman County, Dr. D. W. Flowers, Little Lot.

Houston County, Dr. A. H. Abernathy, Erin.

Humphreys County, Dr. W. H. Daniels, McEwen.

Jackson County, Dr. J. D. Quarles, Whitleyville.

James County, Dr. O. B. Hughes, Ooltewah.

Jefferson County, Dr. B. M. Tittsworth, Jefferson City.

Johnson County, Dr. D. R. Stout, Butler.

Knox County, Dr. Walter Luttrell, Knoxville; Dr. W. R. Cochrane, Knoxville; Dr. E. R. Zemp, Knoxville.

Lake County, Dr. R. W. Griffin, Tiptonville.

Lawrence County, Dr. T. J. Stockard, Lawrenceburg.

Lewis County, Dr. G. N. Springer, Hohenwald.

Lincoln County, Dr. W. F. Cannon, Fayetteville, R. F. D.

Loudon County, Dr. J. T. Leiper, Lenoir City.

Lauderdale County, Dr. J. W. Sanford, Ripley.

Macon County, Dr. Patterson East, Lafayette.

Madison County, Dr. J. T. Herron, Jackson.

Marion County, Dr. C. L. Hackworth, South Pittsburg.

Marshall County, Dr. S. T. Hardison, Lewisburg.

Maury, Dr. Robert Pillow, Sr., Columbia.

McMinn County, Dr. Gus Shipley, Athens.

McNairy, Dr. H. C. Sanders, Selmer.

Meigs, Dr. N. A. Arrants, Decatur.

Monroe County, Dr. J. A. Hardin, Sweetwater.

Montgomery County, Dr. F. J. Runyan, Clarksville.

Moore County, Dr. J. D. McCord, Winchester, R. F. D.

Morgan County, Dr. W. E. Gallion, Oakdale.

Obion County, Dr. J. B. Hibbetts, Union City.

Perry County, Dr. J. D. Daniels, Linden. ston.

Perry County, Dr. Watt Yeiser, Linden.

Pickett County, Dr. W. C. Groce, Byrdstown.

Polk County, Dr. L. E. Kimsey, Ducktown.

Putman County, Dr. J. T. Moore, Algood.

Rhea County, Dr. R. C. Miller, Evansville.

Roane County, Dr. W. W. Hill, Harriman.

Robertson County, Dr. W. W. Porter, Springfield.

Rutherford County, Dr. V. S. Campbell, Murfreesboro.

Scott County, Dr. J. I. Foster, Huntsville.

Sequatchie County, Dr. J. A. Lamb, Dunlap.

Sevier County, Dr. J. W. Rogers, Sevierville.

Shelby County, Dr. William Krauss, Memphis, Dr. W. W. Taylor, Memphis, Dr. B. F. Turner, Memphis, Dr. J. M. Maury, Memphis.

Smith County, Dr. B. J. High, Elmwood.

Stewart County, Dr. F. M. Acree, Dover.

Sullivan County, Dr. W. K. Vance, Bristol.

Sumner County, Dr. J. R. Parker, Gallatin.

Tipton County, Dr. G. B. Gillespie, Covington.

Trousdale County, Dr. A. C. Donoho, Hartsville.

Unicoi County, Dr. L. S. Tilson, Erwin.

Van Buren County, Dr. J. C. Morgan, Cummingsville.

Warren County, Dr. E. L. Mooneyham, Rock Island.

Washington County, Dr. C. J. Broyles, Johnson City.

Wayne County, Dr. Frank Norman, Waynesboro.

Weakley County, Dr. T. B. Wingo, Martin.

White County, Dr. W. J. Breeding, Sparta, R. F. D.

Williamson County, Dr. Sam White, Franklin.

Wilson County, Dr. A. O. Eskew, Lebanon.

ROBERTSON COUNTY REORGANIZED.

It is with sincere pleasure that we record the fact that the Robertson County Medical Society, which failed to renew affiliation with the State Association at the beginning of the current year, has reorganized and is again one of the active units of the state organization. For years old Robertson was one of the first counties to report, and when she failed to come in in January this year, it fairly disarranged the whole schedule of things. The society had long been one of the leaders, with a splendid membership. On September 3rd, the physicians of Robertson County met at Springfield and perfected organization, with Dr. F. M. Woodward as president and Dr. B. B. Sory as secretary.

We hope and predict that the Robertson County Medical Society will resume its former place among the societies of the state, and that it will be a powerful influence for good.

MISCELLANEOUS

THE VOLUNTEER MEDICAL SERVICE CORPS.

Many thousands of blanks for enrollment of the legally qualified men and women physicians of the country in the reorganized Volunteer Medical Service Corps are being mailed by the chairman of the General Medical Board of the Council of National Defense. With the blank are enclosed a letter and a folder, giving all details as to the organization.

The blank which applicants are asked to fill out reads:

APPLICATION FOR MEMBERSHIP IN
THE VOLUNTEER MEDICAL
SERVICE CORPS.

Authorized by Council of National Defense.
Approved by the President of the
United States.

(Spaces for date, full name, street, city and state addresses.)

1. Date of birth.
2. Place of birth.
3. If foreign born, when did you become a resident of the United States?
4. When and where naturalized? How?
5. Are you single, married, widowed, or divorced? Nationality? Color? Height? Weight?
6. State high school, academy, college or university you have attended, with dates of attendance, graduation, and degrees received.
7. Give all literary or scientific degrees you have received and names of institutions granting them, with dates.
8. With what languages or branches of science are you familiar?
9. When and where graduated in medicine?
10. When and where licensed to practice medicine?
11. Name principal medical societies of which you are a member. (Do not abbreviate.)
12. What specialty of medicine do you practice?
13. Proportion of time devoted to specialty?
14. Clinical experience in specialty? Institution? No. of years?
15. State all past hospital services. Hospital. Capacity. Date.
16. Present hospital connections. Hospital. Department. Capacity.
17. School and teaching positions occupied in the past. School. Capacity. Date.
18. School and teaching positions now occupied. School. Department. Capacity.
19. State all past experiences in industrial or railroad medicine and surgery: NAME AND ADDRESS OF PLANT. TYPE OF SERVICE (whether medical, surgical, occupational diseases, accident work, contract practice for families of workmen, etc.). DURATION OF SERVICE.
20. State all present connections with industries or railroads. NAME AND ADDRESS OF PLANT. TYPE OF SERVICE (whether medical, surgical, occupational diseases, accident work, contract practice for families of workmen, etc.). TIME DEVOTED TO EACH PLANT.
21. State military, naval or public health experience you have had.
22. Are you a Federal, State, County, or Municipal officer? (State exact designation of your office.)
23. Are you engaged in enterprises other than medicine? If so, what?
24. Have you followed any occupation, medical or otherwise, not already noted?
25. Have you previously been an applicant for entry into the United States service? Service. When. Where. Result. (If rejected, state why.)
26. I have not applied for appointment in the Medical Reserve Corps of the Army, the Naval Reserve Force, or the Public Health Service, owing to______ (Check reason).
    a. Physical disability. (State disability in detail.)
    b. Over age (55). (State age in years.)
    c. Essential institutional need. Name of institution. Position. Name and address of chief executive.
    d. Essential community need. Approximate population. Number of physicians now practicing in your community.
    e. Essential to Health Department. Name of department. Position. Name and address of chief of department.
    f. Essential to industries. Name of plant. Position. Name and address of chief executive.
    g. Essential to medical school. Name of medical school. Position. Name and address of dean.
    h. Essential to Local or Advisory Boards. Name and address of Board. Position.
    i. Dependents. Number of dependents, including self, but not employees. What proportion of your income or that of your dependents is derived from sources other than the practice of your profession? Do other persons contribute to the support of your dependents? Have you or your dependents other im-

mediate relatives who could provide support for your dependents?

j. Sex. (State your sex.)

k. Religious conviction, not a citizen, or other reasons. (State reason.)

27. Are you available for any of the following services:

a. Consultant. Medical service. Surgical service. Public Health service. Special service—What?

b. Institutional. Laboratory. Administrative. Medical service. Surgical service. Special service—What?

c. Medical service for industries. Part time. Full time. Own community. Other communities. Kind of work.

d. Local or Medical Advisory Boards.

e. Reclamation of registrants rejected for physical unfitness.

f. Services to needy families and dependents of enlisted men.

g. Sanitation.

h. Miscellaneous service.

28. Check the Governmental service in which you would prefer to serve, if selected.

a. Medical Reserve Corps of te Army.

b. Naval Reserve Force.

c. Public Health Service.

NOTE.—Wherever practicable, your preference wil be given consideration. However, the exigencies of war may render it necessary to ask you to do service other than that indicated as your choice.

29. Personal references. (Name three, at least one physician.)

I hereby make application for membership in the Volunteer Medical Service Corps of the United States. I certify that, to the best of my knowledge and belief, the answers to the preceding questions are true and correct in every respect. I pledge myself to abide by the rules and regulations of the Corps; to apply for a commission in the Medical Reserve Corps of the Army, the Naval Reserve Force, or for appointment in the Public Health Service when called upon to do so by the Central Governing Board; and to comply with any request for service made by the Central Governing Board.

(Signature) ______________________________

(Present postoffice address.) _____________

An outline of the purpose and scope of the Volunteer Medical Service Corps, contained in the folder, is as follows:

VOLUNTEER MEDICAL SERVICE CORPS ORGANIZATION.

1. Provides means for obtaining quickly men and women for any service required.

2. Furnishes recommendations and necessary credentials to assure the best of medical service, both military and civil.

3. Determines beyond question the attitude of the individual toward the war.

OBJECT OF CORPS.

1. Placing on record all medical men and women in the United States.

2. Aiding Army Navy and Public Health Service in supplying war medical needs.

3. Providing the best civilian medical service possible.

4. Giving recognition to all who record themselves in Army, Navy, Public Health activities or civilian service.

WORKING PLANS.

All matters pertaining to the organization will be under the direction of a central governing board, authorized by the Council of National Defense and approved by the President of the United States, and its affairs will be conducted from the general headquarters of the Volunteer Medical Service Corps at Washington, D. C., under the Council of National Defense.

OPERATING SYSTEM.

1. Central governing board of twenty-five.

2. Forty-nine state executive committees.

3. One representative in each county in every state.

Note.—(a) All men to be appointed to state and county committees preferably over 55. (b) Each state executive committee to consist of five in the smaller states and one additional member in each of the larger states in proportion to each 1,000 medical inhabitants (to be nominated by state committees, Medical Section, Council of National Defense, from among their own members). (c) Each county of 50,000 population or under should have one additional county representative for each 50,000 population or fraction thereof. All county representatives to be nominated by the state executive committee.

DUTIES.

Central Governing Board.—To receive and pass upon all appointments.

State Governing Boards.—To receive facts from county representatives and make recommendations to central governing board.

County Representatives.—To submit facts to state committees according to advice from central governing board or state executive committees.

Under the reorganization, every legally qualified physician, man or woman, holding the degree of Doctor of Medicine from a legally chartered medical school, who is not now attached to the Government service, and without reference to age or physical disability, may apply for membership and be admitted if qualified; whereas, the original organization admitted only those who for various reasons were ineligible to membership in the Medical Reserve Corps. The organization will mobilize the medical profession in order to provide for the health needs of the military forces and the civil population, and the recording and classifying of doctors will afford means of obtaining quickly men and women for any service required.

To date about 40,000 of the 144,116 doctors in the United States—not including the more than 5,000 women doctors—either are in Government service or have volunteered their services. Up to July 12 the Surgeon-General had recommended to the Adjutant-General 26,733 doctors for commissions in the Medical Reserve Corps. About 9,000 others who applied were rejected. With the 1,194 in the Medical Corps of the National Guard and 1,600 in the Navy, the total—38,527—constitutes 26.73 per cent of the civilian doctors. Deducting those who declined their commissions or who have been discharged because of subsequent physical disability or other cause, the number actually commissioned in the Medical Reserve Corps stands (August 23) at 23,531, with several hundred recommended whose commissions are pending. Of the 23,531 there are 22,232 now on active duty.

The need of using wisely the service of the medical men, in view of the universal war activities, is indicated when it is known that in five weeks ended August 2 there were 2,700 medical officers commissioned in the Army, Navy and Public Health Service—or at the rate of 540 per week. This rate at which enrollment is proceeding is the cumulative result of the operation of all the machinery which has been in process of setting up since the United States entered the world war. While the number commissioned in the five weeks mentioned may seem large, it is not much greater than the rate at which medical men have been receiving their commissions during the past year. There are now 28,674 medical officers commissioned in the three services—26,072 in the Army, 2,427 in the Navy, and 220 with the commission of Assistant Surgeon in the United States Public Health Service. Of the 2,700 commissioned in the five weeks ended August 2, there were 2,527 in the Army, 169 in the Navy, and 4 in the United States Public Health Service. Also, 40 doctors designated as Acting Assistant Surgeons have been taken on in the Public Heatlh Service in the last two months, 21 for work in extra-cantonment zones, 14 for special venereal disease work, and 5 for marine hospitals. The 26,027 in the Army medical service comprise 933 in the Medical Corps, the regular Army service; 23,531 in the Medical Reserve Corps, 1,194 in the Medical Corps of the National Guard, and 369 in the Medical Corps of the National Army.

It is estimated that at least 50,000 doctors will be necessary eventually for the Army. It can readily be seen that with the enrollment of these active men, their places in communities and institutions must be cared for, and the work, therefore, throughout the country must be so systematized and co-ordinated that the civilian population may not suffer. An important aspect is the need for medical men in the communities where munitions and other vital war products are being made.

The Volunteer Medical Service Corps, supervised by the central governing board now named, will thoroughly care for these needs.

In connection with the mailing of membership blanks for the Volunteer Medical Service

Corps to all legally qualified men and women doctors of the country, Dr. Franklin Martin, chairman of the General Medical Board of the Council of National Defense, says:

"Great as has been the response to the appeal for doctors, it must be greater. It is imperative that every doctor not already in a government service fill out, sign and return the blank to the offices of the Central Governing Board, Council of National Defense, Washington, at once. We believe thousands will do this, as they are anxious to be enrolled as volunteers for the Medical Departments of the Army and Navy before registration under the new draft law goes into effect. The appeal for enrollment in the Volunteer Medical Service Corps, which President Wilson has formally approved, is an official governmental call to service. This will place the members of the medical profession of the United States on record as volunteers, available for classification and ready for service when the call comes."

REHABILITATION OF DISABLED SOLDIERS.

The vocational and educational problems involved in the rehabilitation of disabled soldiers and sailors are analyzed and discussed by the Federal Board for Vocational Education in Senate Document 167, just published under the title, "Rehabilitation of Disabled Soldiers and Sailors—Training of Teachers for Occupational Therapy."

Emphasis is placed on the immediate and pressing demand for the training of teachers of occupational therapy to take care of the handicapped men on their return from France. It is estimated that for every 1,000,000 men overseas ,a minimum of 1,200 teachers will be needed. What must be the qualifications of these teachers, in view of the experience of the belligerent countries; how they may be trained; what problems are to be met; and how they are to be met in the course of vocational rehabilitation; the social and economic aspects of rehabilitation, and the need for a national system for the rehabilitation of the maimed and crippled in industry as mell as in war, are the main topics of the bulletin. The document is written by Elizabeth G. Upham, under the direction of Charles H. Winslow, assistant director for research of the Federal Board.

The emergency program, outlined in the report, is summarized as follows:

The returned disabled men are divided into four classes: (1) Those who are permanently invalided; (2) those who are able to work, but cannot engage in competitive occupations; (3) those who must learn new occupations in the light of their handicaps; (4) those who are able to return to their former occupations. About 80 per cent of all the disabled fall into the fourth group, and about 20 per cent into the third group. The first two groups are relatively small.

For group 1 the treatment prescribed is "invalid occupations," which are occupations that help pass the time and save the patient from brooding. For group 2, those who will in all probability be unable to compete in any line of work, simple occupations are prescribed to be carried on under the guidance of occupational therapentists. Such occupations as wicker furniture-making, chair-caning, toymaking, and semi-trades, will be taught these men.

For the 20 per cent who must learn new occupations a more elaborate course of rehabilitation is suggested. This will include simple occupations such as are taught to the men of the second group, followed by courses in general education wherever necessary, and followed in turn by prevocational education, that is to say, elementary vocational education; and, lastly, by vocational education in whatever line is best adapted to the qualifications and handicap of the man.

A similar curriculum is proposed for the 80 per cent who will probably be able to return to their old occupations. Under the lead of the occupational therapeutist the patient will be gradually taught simple occupations, his general education will be "brushed up," and the deficiencies supplied, and he will be re-educated so as to resume his former trade in spite of his handicap.

The Federal Board presents in this bulletin an outline of an emergency course covering eight weeks for the training of teachers to handle all four groups of disabled men.

It is expected that a fraction of the disabled men themselves will serve as instructors. Nurses and teachers of arts and crafts will be available for the invalid occupation work; trained and selected women of education with previous experience in the arts, crafts and "semi-trades" will be drawn on to teach simple occupations to group 2. In addition to these, there will be need in groups 3 and 4 of vocational teachers, preferably men, and men and women teachers, in general education subjects, instructors in manual training, commercial subjects, mechanical drawing, drafting, etc. Teachers of each group should have had practical experience in hospitals or institutions, and it is recommended that teachers in groups 3 and 4 should have experience in the same line of work in the military hospitals of Canada.

That every dollar invested by the Government in the vocational rehabilitation of disabled soldiers and sailors will bring handsome returns in national efficiency is maintained in the report. "If the war should finally end in economic exhaustion," says the report, "that nation will ultimately triumph which is best able to use over again her men. It is claimed that Germany uses 85 to 90 per cent of her disabled men back of the lines, and that the majority of the remaining 10 to 15 per cent are entirely self-supporting. Belgium, whose depletion has been the greatest, was the first nation successfully to use over again her men. Not only has the large Belgium reeducation center of Port Villez been self-supporting, but in addition it has paid back to the Belgian Government the entire capital cost of installation. . . .

"Economic necessity has made possible the results achieved in Belgium. For the other nations not so hard pressed the rehabilitation of the disabled and the strengthening of the vitality of the civil population may be an important and perhaps a determining point in their economic future. . . . It is certain that our own economic future depends to a large extent upon the rehabilitation of those disabled both in war and industry."

The bulletin discusses at length the possibilities of development of occupational therapy and the equipment needed for all the groups described. Suggested blanks for keeping the records in the curative workshops and for hospital registration are included.

PREVENTION OF MENINGITIS, DIPHTHERIA AND OTHER INFECTIOUS DISEASES IN THE ARMY CANTONMENTS.

Some exceedingly interesting work on the prevention of the infectious diseases originating in the nasopharyngeal tract is being done by army surgeons at various contonments.

For instance, in an article on "Meningitis at Camp Greene," contributed by Capt. Paul G. Woolley to the Journal of Laboratory and Clinical Medicine for April, the statement is made that "In the only organization which made use of systematic nasal sprays since the first of the year, not a single case (of meningitis) developed, and also that in those organizations in which sprays were resorted to after the appearance of the disease no other cases appeared." The spray used at this camp was Dichloramine-T. Captain Woolley says that after this experience "one comes to have a very healthy respect for Dichloramine-T as an agent for the prevention of diseases of upper respiratory tract origin. " He adds: ',The organization numbered 7 in the chart has had the lowest measles and pneumonia rate in Camp Greene and is the only one which has systematically used the nasal spray. Its record is striking, and forms a reasonable basis upon which to recommend that the routine use of nasal spraying with Dichloramine-T be introduced into the camps for the prophylaxis of respiratory diseases."

Virtually the same method of treatment was employed by Major Carey P. McCord, Major Alfred Friedlander and Capt. Robert C. Walker at Camp Sherman, in the treatment of diphtheria, in an article published in the July 27th issue of the Journal American Medical Association, in which they inaugurated the use of Chlorazene. They employed "an aqueous solution of 0.20 per cent strength, administered as a gargle three or four times daily. In certain cases, the application was made by throat specialists to insure the reaching of remote points in the nasopharynx. The gargling was followed with an oily spray of

Dichloramine-T of 2 per cent strength. It may not be maintained that the Chloramin action is exclusively responsible for the appreciable reduction of days in hospital of carriers. This is in part due to the Chlorazene-Dichloramine-T treatment and in part to the general painstaking systematizing of the entire care of such patients. Through the use of these several described procedures, it has been possible to return the carriers to duty after an average of twenty-three days in hospital. During the month of May, our systematizing of treatment made it possible to discharge all diphtheria patients (sixteen in number) after fifteen days in hospital, and all carriers (twenty-nine in number) after sixteen days in hospital.''

The combined use of aqueous Chlorazene solution and the oil solution of Dichloramine-T promises to be of utmost value, not only inpreventing diphtheria and meningitis, but also as a prophylactic in pneumonia, measles, streptococcic sore throat and the other diseases originating in the nasopharyngeal tract.

Chlorazene and Dichloramine-T are manufactured by, and obtainable from The Abbott Laboratories, Chicago, Illinois.

PROPAGANDA FOR REFORM.

Absorption and Excretion of Mercury.—It may be regarded as clearly established that, in addition to the kidneys, the stomach may participate in this eliminatory function quite as well as the other portions of the alimentary tract. The occurrence of severe intoxications from the use of mercuric chloride in vaginal douches is likewise recognized. The absorption of mercury through the sound skin has been in dispute. To account for the efficacy of mercurial inunction, the contention has been made that the mercury thus applied is volatilized and absorbed through the lungs in greater part, if not entirely. experiments in the dermatologic laboratories of the Philadelphia Polyclinic leaves little doubt that the skin is an important, perhaps the most important path of absorption of mercury applied by inunction (Jour. A. M. A., Feb. 9, 1918, p. 392).

Sodium Bicarbonate.—Few patients will object to the taste of sodium bicarbonate if the required dose is administered dissolved in a convenient quantity of cold water. The taste may be disguised by dissolving the sodium bicarbonate in carbonated water or else by adding a little sugar and lemon juice to ordinary water. Sodium bicarbonate may also be prescribed in the form of tablets. Though it is better that these be allowed to dissolve in the mouth, in most cases they are swallowed without discomfort (Jour. A. M. A., Feb 9, 1918, p. 410).

Acetylsalicylic Acid and Phenyl Salicylate Incompatible With Alkalies.—In the presence of moisture, acetylsalicylic acid is decomposed by magnesium oxide (calcined magnesia), as is also phenyl salicylate (salol). Hence these drugs should not be combined with magnesium oxide in a prescription (Jour. A. M. A., Feb. 9, 1918, p. 410).

Fellows' Syrup and Other Preparations of the Hypophosphites.—An advertisement for Fellows' Syrup reads: "Fellows' Syrup differs from other preparations of the hypophosphites. Leading clinicians in all parts of the world have long recognized this important fact. Have you? To insure results, prescribe the genuine prescription, Syr. Hypophos. Comp. Fellows.' Reject cheap and inefficient substitutes. Reject preparations 'just as good.' " In truth, Fellows' Syrup is not like the better preparations of this type, since after standing it contains a muddy looking deposit that any pharmaceutical tyro would be ashamed of. Examination of the literature used in the exploitation of Fellows' Syrup fails to disclose any evidence to show that it has therapeutic value. Not only is there an entire absence of any evidence of its therapeutic value, but there is an abundance of evidence that the hypophosphites are devoid of any such therapeutic effects as they were formerly reputed to have, and that they are, so far as any effect based on their phosphorous content is concerned, singularly inert. As the result of its investigation of the therapeutic effects of the hypophosphites, the Council on Pharmacy and Chemistry concluded: There is no reliable evidence that they exert a physiologic effect; it has not been demonstrated that they influence any pathologic process; they are not "foods." If they are of any use, that use has never been discovered (Jour. A. M. A., Feb. 16, 1918, p. 478).

Calcium Iodide in Tuberculosis.—There appears to be no work to indicate that the intravenous administration of calcium iodide in tuberculosis is of value. It has not been demonstrated that tuberculosis is associated with a deficiency of calcium. On the other hand, experiments demonstrate that the administration of calcium does not change the calcium content of the blood. Furthermore, there is no evidence to warrant the intravenous administration of iodides (Jour. A. M. A., Feb. 16, p. 481).

Antiphlogistine.—A. G. Gould, M. D., plant physician to the Goodyear Tire & Rubber Co., writes that after corresponding with the physicians in charge, he finds incorrect the claims of the Denver Chemical Mfg. Co., regarding the use of antiphlogistine by certain establishments. He asks: "Is there not some way that such exploitation of our large companies can be prevented? (Jour A. M. A., Feb. 23, 1918, p. 557.)

Luminal.—Chemically, luminal is phenylethylbarbituric acid, and differs from veronal only in that one thyl group is replaced by a phenyl group. Luminal is claimed to be a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system (Jour. A. M. A., Feb. 23, 1918, p. 559).

THE TEACHING OF PHARMACOLOGY.

A. D. Hirschfelder, Minneapolis (Journal A. M. A., Aug. 24, 1918), in his chairman's address before the Section on Pharmacology and Therapeutics at the late meeting of the American Medical Association, suggests a more extensive use of the human subject in the experimental work on drugs. Man is just as good an animal as a dog or a rabbit, and much more available, and to the average medical student experiments made on himself are a great deal more impressive and a great deal more interesting. One of the most important lessons learned this way is the science of dosage. Experiments with drugs, Hirschfelder says, bring the physiologic testing of therapeutic effects closer home and moke them more impressive to the student. Occasionally a mild idiosyncrasy is met with in a student, it is discussed and the impression is more fixed for the whole class. Experiments, also, of theoretical importance, such as the conversion of organic acids to carbonates within the body and their use in the alkalinization of the urine can be more easily shown to the student in experiments on himself. Improved methods with animals are also suggested, and a plea is made for greater simplicity in the technic of laboratory experiments. Another point made is the value of acquaintance with the original literature. A first-hand acquaintance with a couple of good articles on each group of drugs is both concrete and stimulating, and above all the reading of original literature is a good habit to be formed. The final suggestion is that the teaching of pharmacology might better be begun in the junior rather than in the sophomore year, as a student would then be better prepared for the subject.

CEREBROSPINAL MENINGITIS.

The results of experience with 265 cases of meningococcus infection at Camp Jackson, Columbia, S. C., are described by W. W. Herrick (New York), Camp Jackson, Columbia, S. C. (Journal A. M. A., Aug. 24, 1918). Some of their results were published in previous articles. Herrick says that the fact that meningitis due to the streptococcus, the pneumococcus, the tubercle bacillus and other organisms is always secondary seems to have been left out of account, and in his experience with the epidemic here described it soon became apparent that it was not a primary meningitis but a meningococcic sepsis with a secondary meningeal localization. As the epidemic continued this opinion become more firmly fixed. The principal arguments in favor of this view are that in about 45 per cent of the cases the generalized symptoms of sepsis were recognized before the meningitis developed. The petechial rash the arthritic pains, cardiac involvement, pneumonia, etc., show that in this disease the organism was widely disseminated by the blood stream, and in about 4 per cent of the meningococcic infections observed, meningitis did not develop. The effect of intravenous serum therapy is an added argument. Foreign authorities have made a similar observation. In the experience at Camp Jackson the meningococcic sepsis is usually characterized by a podronal period of malaise, of languor, with frequent upper respiratory tract infections. The patient soon becomes ill, weak and apathetic. There may be diarrhea, tonsilitis or, as in four of the cases at Camp Jackson, a meningococcic conjunctivitis. The temperature is rarely above 102, and headache may be present or absent. The tonsils and tongue may be coated, the latter usually, and the typical mucoid saliva present. In the presence of an epidemic, the one almost diagnostic sign is a petechial rash, which was present in about hilf the cases. The ill balanced activity of the deep reflexes is characteristic. The spinal fluid, as in other acute fevers, may be under increased pressure, and there may or may not be a trace of globulin. If organisms are not found in the fluid by the first lumbar puncture they frequently appear in that obtained by second performed three or four hours later. The first symptoms of acute lobar pneumonia are very like those of meningococcus infections, but apathy is less marked, skin lesions are absent, and the deep reflexes are usually equally active on either side of the body, and the bacteriologic examination of the spinal fluid is negative. After the diagnosis is once confirmed, the earliest possible treatment is indicated, and as the disease is primarily a blood stream infection, it will have to be treated as such, the idea being to sterilize the blood by massive doses of antimeningococcic serum given intravenously. The general plan of treatment is as follows: The patient is desensitized by the injection of 1 c.c. of serum subcutaneously. One hour later from 80 to 150 c.c. are given by vein, the first 15 c.c. at the rate of 1 c.c. per minute and the remainder is allowed to flow more rapidly. In severe cases the injection is repeated every eight to twelve hours, in the mild cases every twenty-four hours, until the symptoms are under control. The average number of intravenous injections given is four and a half, and the average total amount of serum is 400 c.c. The greatest number of intravenous injections used in any case was twelve; the highest total amount of serum, 1,050 c.c. With infrequent exceptions the meningococci were absent after the first forty-eight hours of this treatment. The percentage of mortality under the older methods was 34.3 per cent, while of the 128 treated by the newly developed methods, only nineteen died, a mortality of 14.8 per cent. Milder cases do well under either form of treatment, but the new methods have the lowest mortality. Further statistics are given, not only in regard to cure, but also in preventing complications, some of which may permanently handicap the patient after recovery. Of those due to the blood stream infection panophthalmitis is the most important, since it almost invariably causes loss of sight. Two tables accompany the article, one showing the mortality in the different types of cases and the other the frequency of complications in each.

DIGITALIS THERAPY.

J. H. Pratt, Boston(Journal A. M. A., Aug. 24, 1918), calls attention to the early work of Withering on digitalis which has apparently been largely overlooked by more recent observers. He also notices the various strengths of different preparations and the importance of the subject. It makes no difference in what form digitalis is given, provided it is sufficiently active, and there has been of late years at least a deficiency in this respect in most American preparations of the drug. German digitalis has, therefore, been more largely used in this country, but the author has obtained some wild leaf from the Northwest which has shown itself to be very active and of twice the strength demanded by the pharmacopeia. He has learned that active leaves can be obtained, at times at least, as far north and east as Portland, Maine, as far south as Virginia, in the Middle West, and in the ocky Mountains, and that it grows wild in great quantities in parts of Oregon and Washington. For the past eight years Pratt has followed the rule of Withering and pushed the drug until a physiologic effect was obtained. His experience has shown him that large doses are not dangerous when the cases are carefully followed, and that the drug gives brilliant results in heart failure associated with auricular fibrillation, and that it is beneficial in some cases of heart failure with normal rhythm. In hearts with normal rhythm, slowing of the pulse is still generally regarded as a measure of digitalis action, but Pratt's observations confirm the findings of Mackenzie and Cohn and Fraser that the drug rarely slows the pulse except in auricular fibrillation until toxic symptoms are produced. The action of strong digitalis in slowing the rapid pulse of auricular fibrillation furnishes a simple and reliable means for determining the activity of any digitalis preparation. Physicians should learn to recognize the presence of coupled beats with the stethoscope, and when they appear the drug should be discontinued. The development of heart block may be followed by a striking improvement in the condition of the patient. When loss of appetite develops suddenly Pratt usually discontinues the drug, taking it as an indication that the physiologic limit has been reached. The ordinary dose of a strong digitalis preparation is 1 c.c. of the tincture or 0.1 gm. of the powder three or four times a day. The infusion, he thinks, should not be used at all. The preparations or extracts of digitalis are noticed by Pratt, and he says, the "German digitalin" is a mixture of alkaloids of varying strength, and he condemns its use. The "French digitalin" is different and trustworthy. He warns against the use of tincture of strophanthus as a substitute for digitalis. One sample tested by him on frogs was found to be 100 tmes as strong as a good digitalis tincture. That those receiving it did not die or show serious toxic symptoms is good evidence that it is not absorved from the stomach or intestines. Strophanthin is a reemdy which, if given intravenously, may save lives and which has not received the attention it deserves. Ouabain has not yet been tested sufficiently in clinics and its proper dosage not properly discovered. Burroughs and Wellcome supply amorphous strophanthin in tablets of 1/1500 grain for intravenous use. Pratt reports one case of heart failure with normal rhythm, urgent dyspnea, Cheyne-Stokes breathing and chronic interstitial nephritis in which great improvement followed one intravenous injuction of strophanthin.

INTESTINAL PARASITES.

H. H. McClanahan, Omaha (Journal A. M. A., Aug. 24, 1918), gives a general classification of endoparasites which occur in four of the great primary phyla of animals. First come the protozoa; second, the arthropoda, including the cereal mites, mountain ticks, lice, etc. Third come the flat worms, and fourth, the large group of round worms, the nematelminths. The subject then is taken up of the intestinal parasites of children, more especially the ones that are common, and the popularly assumed cause of all manner of symptoms. In the South the hookworm is most important. The tapeworms have no characteristic symptoms, and it is believed by some authorities that the fish tape worm elaborates a toxin. The larger roundworms may cause symptoms, the chief of which are abdominal pain and mucus in the stool, also their migration. The author has twice seen vomiting of roundworms, and twelve cases of obstruction of the bowels from this cause have been reported. Threadworms are more frequent in infants, and while they may exist in the upper bowel, the lower one is more commonly infested. Pruritus ani with itching is the most characteristic symptom, and the worms may often be discovered by careful inspection. Quite frequently, children will pass worms during acute sickness. Aside from the symptoms, intestinal worms may do damage by their migration by the production of leukomains, as has been recently pointed out, by the decomposition of dead worms in the intestinal tract, and by the mechanical irritation of the lumen of the bowel. The hookworm causes a severe anemia, either by using up the patient's blood or by the production of toxins. McClanahan calls attention to the therapeutic test which he has made it a rule to follow in selected cases. "The child is given a cathartic in the evening, a light supper and no breakfast; and in the morning, the treatment is instituted. I have employed a combination of santonin and calomel, or the fluid extract of spigelia and senna. I am in the habit of combining this remedy with the syrup of blackberry. These remedies are followed by a brisk cathartic of either castor oil or solution of magnesium citrate. The mother is instructed to have a vessel containing water ready, and the stools are carefully examined. Any suspicious particles are put in a bottle and brought to me for inspection." The author has notes on fifty-seven cases where this was used for the discovery of the parasites. Three of the patients passed roundworms, one passed segments of tapeworm, and two passed threadworms. The threadworms are the most frequent in infants. All infants suffering from pruritus ani should be carefully looked after. Sometimes they are so high up that they cannot be reached by an enema, and the treatment McClanahan uses is giving small doses of calomel and santonin, usually four doses an hour apart, followed in another hour by a cathartic. This method is given once a month, and every night the mother applies a salve of equal parts of mercurial ointment and benzoinated lard. He uses an infusion of garlic also ,and keeps the treatment up for a week. In treating tapeworms in children they cannot always retain the remedy, and he has observed that when the head is not expelled an interval of about three months occurs before segments reappear in the stools, which should be the guide to the beginning of treatment. Roundworms causing no symptoms are probably the most frequent variety of parasites in children, and the author uses the combination of calomel and santonin as in the treatment for pinworms. He has twice seen a second roundworm excreted after a repetition of the treatment, and, therefore, this is mentioned as advisable.

PAROTITIS.

Martha Wollstein, New York (Journal A. M. A., Aug. 24, 1918), reports an experimental study of parotitis to determine the germ or virus of mumps. Three years ago material was obtained from a number of children acutely ill with parotitis. They were allowed to rinse their mouths with sterile physiologic sodium chloride solution, and the washings were filtered through a new Berkfeld candle N. The resulting filtrates were proved sterile by aerobic and anaerobic culture methods, and were injected into the parotid glands and testes of half grown cats which are known to be subject to attacks of parotitis. Old cats were found unsuitable. Before anesthesia the temperature of the cats was recorded and the leukocytes counted and differentiated. The skin over the parts to be inoculated was carefully cleansed and shaved. The animals recovered rapidly from the anesthesia and seemed well except for a slightly higher temperature the next day. After six or seven days tenderness returned in the parts inoculated, lasting from two to five days in the parotid, but from ten to fourteen days in the testis. The increase in leukocytes became evident two days after inoculation and increased with the rise of temperature. The appetite was very slightly affected. At no time did the animals seem seriously ill, and none died. Transmission from cat to cat was accomplished by means of the saliva of the inoculated cats, and with emulsions made from the inoculated glands. After the third or fourth transfers, the reaction was more rapid and the effects more severe, but after the sixth or seventh transfers, the reaction perceptibly declined. The experiments were controlled with extracts prepared from parotid glands and testicles of normal cats, in which only a slight rise of temperature and a temporary polymorphonuclear leukocytosis followed. No enlargement or tenderness of the glands was shown. The pathologic findings and blood changes are described and the blood picture is not dissimilar from that observed in human cases with testicular complications. The saliva of man and of inoculated cats evidently contains the virus of the disease, and examinations show that the blood of parotitis is also infective to cats. The virus of parotitis is most readily detected in the saliva during the first three days of the disease, less readily by the sixth, and not at all after the ninth day. This has a practical bearing on the questions of infectivity and isolation of the disease. The serum of recovered cats was found to contain an immune body which diminished or even neutralized the action of the virus of parotitis. The article is illustrated.

PREVENTION OF PNEUMONIA.

Rufus Cole, New York (Journal A. M. A., Aug. 24, 1918), says that up to last autumn little attention was given to pneumonia as a probable menace to our newly formed Army. There were not lacking warnings, however, and in November and December the disease became alarmingly prevalent. A year ago the discussion of the subject would have been confined to a consideration of the prevention of acute lobar pneumonia due to pneumococci, but today we have entirely changed our point of view, and the acute lobar pneumonia is considered an endemic disease, while streptococcus pneumonia, which has become so prominent of late, occurs chiefly in epidemic form on account of the extreme variableness in the pathogenic properties of the streptococcus infections in animals are not self-perpetuating. They occur as epidemics, usually secondary to other diseases. This is also true in man. A suitable soil is needed, and, this provided, the germs rapidly gain in virulence. An epidemic probably is unpreventable, but the number of cases can be possibly limited. The time to stop streptococcus bronchopneumonia is at the beginning. Later it is extremely difficult. The measures to be taken are reviewed and especial emphasis laid on isolation. The personnel of the infectious disease hospital should be distinct from the general one, and have the facilities for still further divisions as measures of prevention of the spread of disease. The prospects of treatment of the lobar type of serum methods are sufficiently promising to warrant their thorough trial.

ENURESIS.

J. I. Grover, Boston (Journal A. M. A., Aug. 24, 1918), reports observations on about 200 cases of bedwetting for over seven months, all in children under 12 years old. Sixty-two per cent were boys, and in most cases there was a family history of similar conditions. In 59 per cent the wetting took place only at night, and in 68 per cent it occurred every night, the remainder less frequently. Seventy-nine per cent had always wet the bed from babyhood; 20 per cent began later in life after a normal period. Fifty-one per cent of the boys had previously been circumcised with good result as regards this condition, and 36 per cent had had adenoids removed without apparent relief. In two cases they were made worse. Only two patients were feebleminded, and four had some external genital abnormality. There were many accompanying conditions present, among the more frequent being pinworms in thirty-four cases, pyelitis in eleven, tuberculosis in five, chorea in four, orthostatic albuminuria in four, adherent prepuce in four, and thirteen other conditions, such as would be met with in any ordinary clinic. Enuresis is probably never a disease entity, says Grover, but simply a symptom or evidence of an underlying cause, namely, a neuromuscular fatigue. It is not localized, but general, and is a chronic condition. The patients are active and nervous and sleep soundly, waking with difficulty. The author believes that it is a similar neuromuscular fatigue that makes some children stutter and others have habit spasms. Mental strain is often a factor. Many of his patients attended parochial schools that exacted almost seventeen consecutive hours of work, besides two or three hours doing home lessons at night. Diet is another important factor. It was very poor in 95 per cent of the cases. The patients were getting plenty of food, but it was not the kind needed. Indigestion was uncommon, but the gastro-intestinal tract was constantly under strain. Besides the general underlying cause of neuromuscular fatigue, habit must be reckoned with, and Grover compares the cause and habit in enuresis to it being due sometimes to the cause and habit in whooping cough. The size of the bladder must also be considered. It is never fully distended in the congenital cases and this must be treated. The treatment given was altogether on dietary and hygienic lines. The diet was regulated and all food was forbidden between meals. The selected diet list included milk, eggs, butter, meat, fish, breadstuffs, cooked cereals, macaroni, vegetables, oranges, stewed fruits, and simple, unsweetened desserts. Soups, coffee, cream, candy, pastry, highly seasoned foods, etc., were forbidden. The child was required to be in bed at 7 p. m., and in very nervous cases school was temporarily prohibited. The habit element was treated in the usual way.

No fluids were allowed after 4 p. m., and there were regular hours for urination at night, punctuality being required. The day wetters were made to urinate at regular stated times, anywhere from every three hours down to every twenty minutes. Nineteen per cent of 131 cases ceased the habit after their first visit for instructions, and another 23 per cent were cured within a few weeks or months. An additional 31 per cent were reduced in number of wettings to once a week or so, and 13.5 per cent were partially relieved. Sixteen per cent were not relieved at all. Many of the other coexisting disorders were markedly improved, such as habit spasm, stuttering, petit mal in one case, and almost all recognized an improvement in their irritability and gained weight, though there was often an initial loss at the beginning of the treatment. It is common knowledge that mild cystitis and pyelitis are secondary conditions flaring up when the patient is run down or diseased. The general body fatigue may be responsible for both. On the same theory atropin, strychnin, or thyroid may act as nerve or muscle tonics. It is usually conceded that drugs without proper hygienic treatment have little effect. As the children were all outpatients and the treatment carried out at their homes, perfect success could hardly be expected, but the paper is offered as showing the effect of simple, regular diet, rest and little or no excitement in these cases.

TYPHOID FEVER.

Samuel Bradbury (New York), France (Journal A. M. A., Aug. 17, 1918), reports the occurrence of four cases of typhoid in a company of 175 men of the Eleventh Engineers (railway), and emphasizes the fact that the six routine injections given are not an absolute guarantee against infection from the typhoid germ. Some persons become immune or retain immunity only a very short time. Most men are immune, for how long is not known, but every factor that has made typhoid almost an army curiosity should be carefully observed. Bradbury gives the details as to the prophylactic methods, the source and quality of the vaccine, and the diagnosis by the isolation of the term in every case, also the possible sources of infection. There were nine possible carriers working in the kitchen supplying the force, and in the author's opinion the infection was caused by a carrier. The immunity, it may be concluded, was not of five months' duration. There was no other typhoid in any other company of this regiment. The infection was limited to men eating from one mess kitchen in which seven possible carriers had been working. In conclusion he mentions the reports of Pagniez and Vallery-Radot of similar cases among French soldiers.

CONTROL OF MENINGITIS.

Simon Flexner, New York (Journal A. M. A., Aug. 24, 1918), emphasizes the importance of the carrier question in the fight against meningitis, especially in our new Army. Two essential facts appear: First, that numbers of meningococci are thrown off with the nasopharyngeal secretion, and second, that the bacteriologic type or variety of the organism plays a large part in determining the result. Thus the healthy carrier who harbors many meningococci is a much greater potential menace than one who harbors few. Some type of the organism are more virulent than others. Bacteriologists are agreed that the meningococci are a complex group, rather than any fixed type of micro-organism. Recent studies also indicate that this group contains two immunologic varieties which are responsible for from 75 to 80 per cent of all cases of epidemic meningitis. The rest of the cases are caused by meningococci of less fixed qualities, and also less parasitic. The healthy carriers have been found to harbor rather the less pathogenic varieties, but once cases become frequent the number of healthy parasitic carriers increases. We now can tentatievly view the meningococci as we do the pneumococci and assume that there are miscellaneous meningococci corresponding to the Type IV class of the pneumococcus, which is still regarded as saprophytic, and practically always present in the mouths of a large proportion of healthy persons. If we continue in this line of comparison we should regard as menacing only the carriers of the parasitic varieties. The distinction between them and the others may now be readily made on the basis of specific agglutination with monovalent immune serums derived from rabbits. The matter, however, is still in its early stages, but it is to be hoped its importance will lead to a critical study of the meningococcus carrier problem from this point of view.

PROSTATECTOMY.

Clarence Martin, St. Louis (Journal A. M. A., May 4, 1918), reports the results of an inquiry undertaken by himself, as to the later findings in cases of prostatectomized patients. The family physician was chosen by him as the source of information, and he sent out a questionnaire covering the history of the case since the operation, and on balancing the returns he found he had reports from fifty-five patients who had been operated on with the old perineal method, and an equal number who had undergone a suprapubic operation. This even balance of operative routes seems to support the reliability of the conclusions. The 10 operations represent a wide assortment of surgical talent. It is interesting to note also that the cases that had undergone the suprapubic operation were on the average a trifle over two years older than those subjected to the perineal. The average age of the suprapubic patients was 66.5 years, and that of the perineal patients 64.3 years. It is true that the perineal operation has, heretofore, had a smaller operative mortality than the suprapubic, but during the past few years the operations have been gradually equalized in this regard, especially since the two-step suprabic operation has become more popular, and the element of extra hazard of the one over the other does not enter so prominently into the question. Some questions in the questionnaire were not always answered, and when the answers were vague and obviously incorrect, the ywee not used. We may grant that any prostatectomy that closes entirely within four weeks may be counted as healed promptly, and 61.2 per cent of the suprapubic cases were thus reported, as against 42 per cent of the perineal cases. Within one year following operation, the wounds in a full hundred per cent of the suprapubic cases as against 84 per cent of the perineal wounds, were fully healed. Definite information of the day urination of thirty-seven suprapubic and of thirty-six perineal patients was obtained. The results of this information, expressed in percentages, were good, among the suprapubic cases, in 81, while in the perineal cases the results were good in 66.6. Complete incontinence existed in only 4.3 per cent of the entire suprapubic series, as against 14 per cent of the perineal cases. Cystitis is still complained of in 35 per cent of the suprapubic patients. Here we find the figures in favor of the perineal route, where only 31 per cent have cystitis. The answers relating to residual urine were inconclusive, and they are not used. There were no cases of stone formation in the suprapubic series, while it occurred in 4.1 per cent of the perineal cases. The effects on sexual power and general health were also better after the former. Martin says, in conclusion: "It is well that the perineal operation is losing popularity, for in this careful analysis of results only in three inconsequential features is an advantage to be found for this route in the parallel figures. In all the important features the suprapubic operation has a big lead, showing beyond the shadow of a doubt that, measured in end-results, suprapubic prostatectomy is vastly superior to the perineal operation"

DISLOCATION OF KNEE.

R. S. Ferguson, New York (Journal A. M. A., April 27, 1918), finds that dislocations of the knee comprise only about 1 per cent of all dislocations, and outward dislocations are exceeded in rarity only by inward dislocations, and the dislocations by rotation. Dislocation of the knee outward occurs in about 0.2 per cent of all cases of dislocation. He reports a case of a young German, who, while crossing a dark road, was struck from the right side by an automobile. The bumper of the car hit the patient just above the knee joint, while the foot was fixed on the ground. On admission to the hospital, the patient complained of great pain and was unable to carry out any voluntary motion of the leg. The lower leg was abducted from the knee about 10 degrees from a straight line, rotated outward about 20 degrees, and in complete extension. "The internal condyle of the femur was seen to project under the skin on the internal aspect of the knee. The patella occupied a vertical position on the lateral aspect of the external condyle. The external tuberosity of the tibia was displaced outward and backward. The internal tuberosity was occupyin ga position in line with the external condyle of the femur, and was displaced slightly in a forward direction. On palpation, the entire internal condyle and the intercondylar groove of the femur could be felt. The patella was absent from its normal position, and could be felt in a vertical plane on the lateral aspect of the external condyle of the femur. The entire external articular surface of the timia could be palpated, even to the spine separating the two articular surfaces on the head of the tibia. The articular surface of the external condyle of the femur and of the internal articular surface of the tibia exactly coincided. The patient was unable to carry out and voluntary motion of the leg. Passive motion, and even light palpation caused exquisite pain." Reduction was done under chloroform. The leg was flexed completely at the knee and at the hip. After flexing, the lower leg was internally rotated, traction was made on the head of th tibia, and the leg was extended. After extension, the patella was easily slipped back into its normal position. A light splint was applied to prevent abduction and keep the leg in extension. After four days a light plaster splint was put on to immobilize the joint. After one week's time it was split into anterior and posterior splints, and the knee massaged three times a day. The author gives his theory of the etiology and describes his experiments on a cadaver, and the finding on its dissection. He concludes that incomplete traumatic dislocation of the knee outward may follow abduction at the knee without rotation of the lower leg. This causes an oblique tear in the internal lateral ligaments and joint capsule, extending from the posterior border of the internal condyle of the femur to the lower pole of the patella, with rupture of the anterior crucial ligament. The outward rotation of the leg seen in the cadaver when the dislocating force was pure abduction, seems to result from the action of the untorn posterior crucial ligament. To conserve the posterior crucial ligament and other untorn ligaments the mechanism of reduction should be by flexion of the hip and knee, combined with the necessary amount of inward rotation. This may be followed by full extension and immobilization of the leg.

NEW AND NON-OFFICIAL REMEDIES.

Barbital.—Diethyl-Barbituric Acid, first introduced under the name veronal. In small doses barbital is a relatively safe hypnotic, but fatalities have followed its indiscriminate use. It is claimed to be useful in simple insomnia, as well as in that accompanying hysteria, neurasthenia and mental disturbances. From 0.3 to 1 gm. (5 to 15 grains) in hot water, tea or milk, or, if in wafers or capsules, followed by a cupful of some warm liquid.

Barbital-Abbott.—A brand of barbital complying with the New and Nonofficial Remedies standards. The Abbott Laboratories, Chicago.

Mercury Benzoate-Merck.—A brand of mercuric benzoate complying with the New and Nonofficial Remedies standards. Mercuric benozate has the properties of mercuric chloride. It has been said to be useful for hypodermic use and in gonorrhea. Merck & Company, New York.

Chlorcosane.—A liquid obtained by chlorinating solid paraffin. It contains about 50 per cent of chlorin in stable combination. Chlorcosane is used as a solvent for dichloramine-T; witn it solutions containing as much as 8 per cent may be prepared. When used in a hand atomizer, chlorcosane solutions of dichloramine-T may be made less viscous by the addition of 10 per cent of carbon tetrachloride. The Abbott Laboratories, Chicago.

Betanaphthyl Salicylate-Calco.—A brand of betanaphthyl salicylate complying with the New and Nonofficial Remedies standards. Betanaphthyl salicylate is believed to act as an intestinal antiseptic and, being excreted in the urine, to act in a similar way in the bladder. It is said to be useful in intestinal fermentations, catarrh of the bladder, particularly gonorrheal cystitis, rheumatism, etc. The Calco Chemical Co., Bound Brook, N. J.

Chlorazene Surgical Powder.—An impalpable powder composed of chlorazene, 1 per cent; zinc stearate, 10 per cent, and sodium stearate, 89 per cent. Chlorazene surgical powder is absorbent, slightly astringent, and forms a closely adherent film when applied to the skin. It may be dusted freely over denuded or abraded areas, cuts, wounds, and skin eruptions. The Abbott Laboratories, Chicago (Jour. A. M. A., Feb. 16, 1918, p. 459).

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary **J. F. GALLAGHER, M. D., Associate Editor**
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., OCTOBER, 1918 NUMBER 6

THE PROPER INTERPRETATION OF BLADDER SYMPTOMS.*

By GEORGE R. LIVERMORE, M. D., F. A. C. S.
Professor Genito-Urinary Surgery, University of Tennessee; Genito-Urinary Surgeon Baptist Memorial and General Hospitals.
Memphis.

So many lesions of the genito-urinary tract manifest themselves by symptoms referable to the bladder, and patients are so often treated for cystitis when the infection is higher up, I wish to emphasize some of the points that lead to the proper interpretation of bladder symptoms.

A patient comes to a surgeon complaining of a burning sensation on urination. If the urine looks clear and we find it acid in reaction, many of us are prone to consider it a case of hyperacidity and dismiss the patient with a prescription for an alkaline diuretic. Again and again do I see a patient with an exacerbation of an old chronic gonorrhoea who has been treated for cystitis, the correct diagnosis never having been made, and who as soon as relieved of the tenesmus and dysuria has been discharged as cured and gone his way, both surgeon and patient being ignorant of the fact that he had, and still has, gonorrhoea and consequently is a menace both to himself and to the woman who becomes, or already is, his wife. Most of these mistakes are due to carelessness and to the belief that certain symptoms mean certain diseases. Bladder symptoms may be due to disease of any part of the genito-urinary tract, and if we are not very painstaking in arriving at a diagnosis, we may devote our energies to the relief of one part, when the disease is in another. A cystitis that does not respond to bladder irrigations in a short time is, in a majority of cases, due to infection higher up; but it is a fact, however, that a cystitis may persist, even after the infection higher up has been eradicated. It is a fact, too, that a pyelitis, due to infection following the traumatism induced by a calculus may clear up under pelvic lavage, diuretics and rest in bed, with consequent relief of bladder symptoms—only to have both return if the stone is not removed. Therefore it is incumbent upon us not only to accurately locate the source of the bladder symptoms, but also the cause, for it would be unfair to the patient to irrigate the pelvis of his kidney for a pyelitis that was constantly being reinfected from a pus pocket in the tonsils.

Mental depression and nervousness go hand in hand with bladder symptoms, and it is rare to find a case where one or both are not present, the former being typical of old men with prostatic hypertrophy and chronic cystitis. Contracture of the neck of the bladder, prostatic bar and hypertrophy of the prostate produce similar symptoms and, as the treatment is so different, we should be sure that our diagnosis is correct before subjecting them to treatment.

It is not overstating it to say that every case presenting bladder symptoms should be subjected to a complete physical, chemical, microscopical, cystoscopic and x-ray examination before we begin treatment; for only by such painstaking study can we accurately locate and scientifically treat diseases of the genito-urinary system.

---

*Read at annual meeting of Tennessee State Medical Association, at Memphis, April, 1918.

Acute prostatitis (both gonorrhoeal and non-gonorrhoeal), prostatic abscess and seminal vesiculitis often cause distressing bladder symptoms, even producing complete retention, and only by subjecting the patient to a thorough examination as outlined above can a correct diagnosis be made. It is remarkable how mild the symptoms may be in some cases of prostatic abscess and how severe in others. I remember one case where I was led to believe that resolution was taking place by the subsidence of pain, by the relief of retention, by the return of the temperature to normal and by a reduction in the blood count, when I was fortunate enough after several examinations to palpate, per rectum, a fluctuating area in the prostate. At operation, the diagnosis was confirmed by the evacuation of a large quantity of pus.

Often the one and only symptom that brings the patient to the surgeon for a stricture of the urethra is getting up at night to urinate. He may not notice that he urinates more frequently than normal during the day—but getting up at night is something new and in most instances he seeks relief. Of course, if not attended to his symptoms become more aggravated and, in time, lead to a diminution in the size of the stream, a sense of obstruction, tenesmus, strangury and finally to complete retention.

An external urinary meatus that is smaller than No. 20 F. may also cause frequency of urination, acting in the same manner as a stricture. The relief of the symptoms, after performing a meatomy, will prove the correctness of this assertion. Be sure, however, to make the meatus large enough, never less than 28 to 30 F.; and it is useless to cut if we allow the raw surfaces to approximate, for healing will soon take place and upon contraction of the scar, the meatus will be smaller than before. It is advisable, therefore, to suture the mucous membrane of the glans to that of the urethra on each side of the incision, so that when healing is complete the meatus will remain the size we intended it to be.

The first symptom of a stone in the ureter may be irritability of the bladder due to the presence of the pus, blood and bacteria in the urine. The amount of blood and pus may be so small as to escape detection except under the microscope, consequently this is another type of case which is frequently diagnosed as cystitis and when the bladder irritability improves, as it usually does under bladder irrigations, the surgeon feels sure that his diagnosis is correct. I have often been impressed with how little pain or inconvenience vesical calculus causes some patients, while in others the suffering is excruciating. I recently removed a large dumb bell shaped calculus from the bladder of a boy six years of age, whose only symptom was incontinence of urine. On cystoscopy I have frequently found stones in the bladder of men with hypertrophy of the prostate who came to me solely because they were getting up at night to urinate. An encysted stone is especially prone to cause no symptoms and, even with the cystoscope, may escape detection; consequently it will be necessary in some instances to use every facility at our disposal before a correct diagnosis can be made.

Certain changes in the veru montanum may be associated with bladder symptoms, especially the congestion and hypertrophy that so often accompanies prostatitis and seminal vesiculitis. It is a noteworthy fact that many of these patients can be relieved by the application of a ten per cent solution of nitrate of silver to the veru montanum, while others resist every treatment at our command. In passing it is well to mention that we often see cases where the veru is enlarged, congested and bleeds easily, and yet the patient has no symptoms referable to his bladder, while others in whom the veru is normal in shape, size and color suffer the torments of the damned.

Villi at the internal meatus may produce a chain of symptoms similar to cystitis, and yet the symptoms will be aggravated by bladder irrigations. I have recently seen a case in a doctor who had been under treatment for months for cystitis, who was entirely relieved by fulguration with the high frequency current. These villi are the so-called "Pelouse bodies" and are considered by Pelouse as practically pathognomonic of tuberculosis.

not necessarily of the urinary tract, but somewhere in the body. In the cases I have seen I have been unable to find tubercle bacilli in the urine and the internists who have examined them have failed to find evidences of tuberculosis elsewhere.

Tubercular infection of any portion of the urinary tract is a frequent etiological factor in the production of bladder irritability. Whenever I see a patient with polyuria, passing acid urine of low specific gravity, regardless of whether there be bladder irritation or not, I am suspicious of tuberculosis. A tuberculous kidney causes irritability of the bladder before infection of the bladder has occurred, and if the infected kidney is removed before the bladder has become involved this irritability will be relieved. The finding of the tubercle bacilli is often a difficult matter, but if a twenty-four-hour specimen is saved and if the entire amount is centrifuged and many slides are made, our care, thoroughness and patience may be rewarded. In cases where we fail, guinea pig inoculation will prove a safe method of determination. I know of no condition where an early diagnosis means more to a patient than in tuberculosis of the kidney; therefore we should be constantly on the lookout for suspicious symptoms and not wait until the disease has progressed beyond the stage where removal of the kidney will result in a cure.

Tumors of the bladder, both malignant and benign, produce symptoms of varying intensity. Hemorrhage may be the only symptom in one case, while severe pain, without hemorrhage, may be present in another; especially do we have pain in cases where the tumor encroaches on the vesical sphincter. Tumors can be seen by the cystoscope and we should not temporize in these cases, for the importance of an early diagnosis is as great here as in tuberculosis; consequently, cystoscopy should be done whenever there is the slightest doubt about bladder symptoms.

A case that shows the importance of cystoscopy in persons suffering with, even the slightest bladder symptoms, is cited by Drs. Lydston and Latimer in a paper entitled, "Slight Urinary Symptoms As an Indication For Cystoscopy." The case in question was that of a man thirty-eight years of age who had a series of urethral infections and with his last attack had a posterior urethritis and prostatitis, with slightly increased frequency of urination. There never had been any blood in his urine. The urinary findings were only a small amount of shreds and pus. He was given irrigations, dilations, instillations and prostatic massage. One day Dr. Latimer wanted to demonstrate the technique of cystoscopy to his post-graduate class, and selected this patient as a suitable subject. He was surprised to find multiple paillomata covering a considerable area, involving the greater portion of the trigone and extending well forward to the vesical outlet.

Symptoms referable to the bladder resulting from a spinal lesion, notably in tabes, often lead to a diagnosis of hypertrophy of the prostate, especially in men past fifty years of age. A careful history and a positive Wasserman, together with other manifestations of tabes will lead to a correct diagnosis.

DISCUSSION.

DR. WILLIAM KRAUSS, Memphis: I am very glad that Dr. Livermore has read this paper, and I am sorry the whole Association did not hear it. I happen to know there are very few doctors who appear to be in a position to make a correct diagnosis of the pathology in the bladder. I get specimens of urine sometimes 24 hours on the road, and the only thing I can find out about it is that sometimes I find a blood clot or clots, and I can tell by looking at the microscope where the blood comes from. It shows that the average doctor does not study the subject of cystitis to learn what is the matter. Dr. Livermore should stimulate more interest in things of this kind. It is impossible to determine the pathology of the bladder by examination of the urine alone and by feeling a patient's pulse, just as it is impossible in a good many cases to do so by making a cystoscopic examination alone. It is quite as difficult perhaps if we do not examine the whole genito-urinary tract to look for the source of the pathology. Whenever you have a patient with bladder symptoms, do not imagine that you are dealing with a simple cystitis, because there may be a generalized tuberculosis, as we have seen time and again, the trouble having gone on for three or four years before a correct diagnosis had been made.

DR. S. S. CROCKETT, Nashville: I feel very much profited by having heard Dr. Livermores' paper. One point I want to emphasize is the importance of determining whether or not the bladder symptoms are due to involvement of the central nervous system. Having charge of a clinic on nervous diseases, I often see these cases brought in after having come from the genitourinary clinic with bladder symptoms which they have had for a long time. These bladder symptoms occur in tabes, in disseminated sclerosis, paretic dementia, and a number of other organic diseases of the nervous system. I think I am conferring a favor on Dr. Livermore if I remind him of the clinical fact that these bladder disturbances in cases of tabes are due to dsiturbances in the sensory apparatus of the bladder. If you introduce a sound into the bladder in a case of tabes you are struck by the fact how little pain the patient has. I think that point is worth remembering. We see these cases that have bladder symptoms for a long time, and it is the first symptoms they have in organic diseases of the nervous system.

DR. E H.. BAIRD, Dyersburg: I enjoyed the paper of Dr. Livermore very much and particularly his remarks concerning the value of diagnosis in these obscure cases of bladder trouble. We find, especially in our surgical work, cases of tuberculosis of the kidney that are brought to us that only show primarily a cystitis, but by the use of the cystoscope, as the doctor has advised, we can readily determine not only the condition in reference to tuberculosis, but any other lesion within the field of the cystoscope.

I saw a very interesting case of bladder trouble that I wish to relate briefly when I was in New York last year. A lady gave a history of bladder trouble and was sent to the post-graduate school and referred to the man who takes care of this class of work. He made a cystoscopic examination and found what he diagnosed as a stone in the bladder. I happened to be present when he operated on the case; he did a suprapubic cystomy, removed a stone, and in connection with that stone was a small abdominal sponge that had been left in the lady's abdomen some months previously during a laparotomy. It ulcerated through and produced a stone in the bladder. He reached down, got the stone, removed it, and attached to it was the sponge which came up through the bladder.

I think the lesson in connection with this paper is thorough examination of these patients and the thorough use of the cystoscope together with bacteriological examination of all discharges that can be procured from the parts.

Get behind the campaign that will keep the boys from falling behind! Give to the United War Work Campaign, $170,500,000, November 11-18.

SURGICAL TREATMENT OF VARICOSE VEINS.*

By Wm. Sailer Anderson, M. D.,
Memphis.

Varicose veins of the lower extremities, with their attendant ulcers, have long been the source of many surgical failures. Many types of operation have been devised for this condition, viz.:

(1) The ligation method of Trendelenburg.
(2) The percutaneous ligation of Shede.
(3) The spiral cut of Rindfleisch.
(4) The Madelung dissection.

A definite knowledge of the circulatory abnormality is an important factor in deciding the availability of any one or the other methods in a given case. Knowledge of the normal venous circulation of the legs is necessary to properly recognize these abnormal conditions. The veins of the lower limbs are set with a number of bicuspid valves, which normally allow the blood stream to flow only toward the heart. When a person is standing, the blood must be lifted about four to five feet from the feet to the heart. The division of the veins into sections by these sets of valves is a very important factor, for the blood stream is lifted from one section to the other by a combination of forces. Every movement of the legs compresses the veins in some of its parts, and this forces the blood stream higher and higher up. The capillary pressure, together with the alternating intrathoracic pressure, all combine to keep the venous circulation moving. The large abdominal veins are devoid of valves, so the valves in the legs are the sole support of this column of blood. This increases the weight against which the column of blood must be forced. Nature has provided for this excess strain by dividing the veins of the legs into two systems, the superficial and the deep, communicating with each other by the perforating veins. Valves are placed in these intercommunicating veins in such a way that the blood can normally flow only from the superficial to the deep system; thus nature again provides a set of safety valves for the weaker superficial system.

---

*Read at annual meeting of Tennessee State Medical Association, at Memphis, April, 1918.

The superficial system is divided into the *internal* or *great saphenous,* and the *external* or *lesser saphenous.* The former, starting from the inner side of the foot and lower leg, passes generally in a straight line upwards along the anterior side of the leg and thigh, empties into the femoral vein at the saphenous opening; the latter drains the posterior part of the leg and empties into the popliteal vein in the popliteal space. Each may be subject to marked variation.

A few features of the venous circulation in the legs should be mentioned as follows: The blood stream passes upward through a series of chambers in the veins divided by small filmy bicuspid valves which are so constructed as to allow the current of the blood to flow normally only towards the heart. This flow is aided by the forces in the abdomen which empty the venacava, by the push of the capillary circulation and by every muscular movement of the legs. As before stated, the walls of the veins of the legs must support the column of blood up to the heart; as the abdominal veins are valveless, the pressure falls upon the upper valves of the veins of the leg, or upon the vein itself if the valve become incompetent. Differing from the superficial vein, which has only support from the superficial fat and skin, the deep veins have a strong muscular support. The perforating system of vessels which passes through the deep fascia lightens to quite a degree the stress on the superficial system.

Etiology.—A varicose vein is a vein where the valves have lost their competency. Keeping this fact in mind, together with a study of the conditions which bring about this pathology, enables us to adopt a rational basis for treatment.

Hard work is the principal cause for the breaking down of the valves, as lifting heavy burdens (as handling freight) over long periods of time. The tension in the muscles of the abdomen associated with the downward action of the diaphragm in violent breathing puts a heavy strain on the veins. Occupations requiring long hours of standing, especially without moving the legs, are a source of varix. The venous engorgement often seen in pregnancy may, after repeated pregnancies, develop a varicosity. It is sometimes the result of phlebitis or "milk leg."

Classification.—For the purpose of treatment varicose veins may be classified as follows: (1) The surface type; (2) the surface type complicated with the varicosed communicating veins. The larger number of cases belong to the first division, the result of gradual dilation, the smaller number being of some of the more advanced cases of the former type, but in the majority of cases are the result of phlebitis. The two types may be differentiated by certain simple methods of diagnosis.

Diagnostic Tests.—Trendelenburg was the first investigator to satisfactorily demonstrate the true nature of varicose veins. He showed how there was nothing to prevent the backward flow of blood in the veins.

The test is to raise the leg until the veins are empty, then rapidly lower it and notice for the rapid return of the blood and the distention of the superficial veins. Sometimes the veins are sclerosed and the flow of blood cannot be definitely noticed, but can be readily felt by the fingers. I employ a variation of this test, as follows: Elevate the leg until the vein is well emptied, and grasp the vein in the thigh with the fingers just below the saphenous opening; then lower the leg and release the pressure, still keeping the fingers in touch with the vein. The vein will fill with a rush of blood if the test is positive.

When the leg is lowered with the vein compressed by the fingers, or a constricting band is sometimes used, normally it usually takes about a minute for a vein to fill, but if the perforating veins are likewise varicosed there will be a leakage from the deeper veins through these into the superficial, and they will fill in a much shorter time, say ten to thirty seconds. This is an important procedure, for it demonstrates whether or not the perforating veins are involved together with the superficial ones, or whether the case is one of pure surface varix. So effectively do the perforating veins drain in some cases of pure surface varix that the surface veins never entirely fill while the constrictor is applied.

Operative Procedures.—The original operation of Trendelenburg was a simple ligation of the great saphenous and was intended by him to relieve the back pressure in the vein. It has been modified by resecting as closely as possible to the saphenous opening a portion of the vein, to prevent the re-establishment of the circulation which was frequently found to occur. This operation is only used as a palliative measure and only then when the perforating veins are competent, for when the vein is not removed there is a fair chance for the collateral circulation to re-establish the circulation. Therefore, I would advise to use it only in the aged or to tide over some period or to heal an ulcer.

The operation of choice with me, which has proven most successful for permanent results in the treatment of superficial varix with no involvement of the perforating veins, is Madelung's. By means of this operation three important requisites are fulfilled. First, that the whole vein is removed; thus there is no chance of a reformation of a new channel or the re-establishment of the circulation. Second, that any ulcers are permanently healed. Third, that the incisions made heal soundly with no interference with the skin functions.

The following plan of operation has proven most satisfactory: About an inch below Poupart's ligament a transverse incision is made in the groin, two or three inches long, and through this the saphenous vein is exposed at the opening and ligated. The vein is now dissected by the Mayo stripper or any other satisfactory means down to the region just below the knee. At this point open dissection should be used, for here the larger branches of the great vein begin to enter, and it is always advisable to dissect out all the veins of the calf down to where they are very small. This is easily done by a long cut from knee to ankle down to the deep fascia, turning back the flap of skin and fat and dissecting out the veins. The cure of the ulcer depends largely on the complete removal of the veins, but if the ulcer is associated with a thick base of scar tissue it is best to remove it down to or, better, through the deep fascia with the mass of poorly nourished scar tissue beneath and around them. This procedure may lay bare quite an exposed area and it is best to cover this at once with Theirsch skin grafts. The third requisite is secured by the proper nourishment of the skin and the proper healing of the wound by perfect hemostasis, proper asepsis, and delicate handling of the tissues. The making of thick flaps of skin with the fat attached is particularly valuable and transverse incisions at the lower part of the leg wound are frequently necessary for greater ease in the dissection. I make it a rule to use fresh sets of instruments for the thighs and leg and close my incisions very loosely with interrupted sutures.

Superficial Varix Complicated With Varicosity of Perforating Veins.—Each case may differ considerably from the other. The varicosed vessels may be numerous and prominent or few and hardly to be felt. In the latter instance the patient's discomfort is usually far more than his condition would seem to indicate. The simplest and most frequently met cases are those of the advanced varix type without any formation of scar tissue about the veins, but occasionally we meet a case of the obese type where the veins are small and thick-walled and can be hardly felt by palpation in the thickened odematous tissues of the lower leg. These are usually phlebitic.

The Paradoxical Law of Varicose Veins.—Quoting from an article of Homan's, he states that "Straight, small, thick-walled veins of the post-phlebitic type are almost unnoticeable, yet the lesions which habitually mark their presence as ulcers, oedema, atrophy of the skin, are obstinately resistant to treatment, and it may perhaps be stated as a law: That the *less noticeable the veins,* the more malignant and resistant the accompanying ulcers, and the more radical and thorough must be the curative operation."

Varicosity of the large tortuous surface type are gradually developed and the perforating veins are usually competent, and any ulcers present heal easily, but when the varicosity is quickly established by some inflammatory process the collateral circulation has no time for development and is consequently ineffective. The perforating veins almost always become involved and crippled and the ulceration in the skin is severe, making the cure far more difficult.

Operative Procedure in This Type of Cases.—Here each case is a law unto itself; likewise the adaption of the surgical procedure to each individual case. In the simple type the removal of the vein as described previously is sufficient, but where the perforating vessels are varicosed not only must the great vein be entirely eradicated, but the branches in the calf must be followed up and excised; for if these are allowed to remain they will continue to remain a source of stasis.

When an area of scar tissue is encountered, if it is the seat of an ulcer, it is best to excise the whole area and skin graft. If the scar tissue is the seat of a healed ulcer, several linear cuts should be made and the tissue loosely sutured.

Where there is much induration and ulcer formation, making unsatisfactory the flap method, we may employ the spiral cut of Rindfliesch or the garter operation of Schede.

All patients with varicose veins should be confined to the bed for several days prior to operation, as this reduces to a large extent the oedema and swelling.

The Post-operative Care.—The whole leg is kept well bandaged, immobilized and elevated for one week. After this the calf should be kept well bandaged for a week longer. After slight exercise the patient is allowed to get up. The leg to the knee should be kept well supported by a well applied bandage for several weeks longer and the bandage then discarded.

Conclusions.—(1) Varicose veins of the legs are confined to the superficial and perforating vessels, the deeper veins particularly never being involved.

(2) The test of Trendelenburg enables us to distinguish the superficial type of varix and the superficial type associated with varix of the perforating veins.

(3) The superficial varix can be relieved by simple surgical method.

(4) Superficial varix complicated with varix of the perforating veins requires for its cure not only the removal of the great veins and lesser when involved, but also the thorough removal of all branches in the lower leg.

(5) Varix following phlebitis is often complicated by varix of the perforating veins and is frequently accompanied by very obstinate ulcerations.

(6) The more prominent and tortuous the surface vein, the simpler the cure, and vice versa.

(7) When ulcers are of long standing and surrounded by dense scar tissue they should be fully excised, together with the radical removal of the varicose veins.

DISCUSSION.

DR. E. H. BAIRD, Dyersburg: This is too valuable a paper not to be discussed at all. I think that Dr. Anderson has covered the ground very thoroughly all along the line, as to diagnosis, pathology and treatment of varicose conditions. I think the lesson we should get from it is that there are a great number of these sufferers who can be relieved, and we should send them to a surgeon to take care of.

I do not think the doctor spoke of the Mayo vein stripper. There may be some disfigurement and scar afterwards.

There is a paste used in the treatment of these cases now; I do not recall the formula, but it can be obtained. They are using it in one of the New York post-graduate schools and are getting excellent results from the use of this paste following operation. It helps to heal the parts and remedy the disease. It is a great relief to the older people when they know that they can be relieved of this condition.

DR. ANDERSON (closing): I do not think I have anything further to say except to refer to the Mayo stripper spoken of by Dr. Baird. I have been using it in stripping down through the thigh and only making one or two small incisions, and thus keeping from mutilating the thigh as much as possible.

ANTRUM INFECTION.

By Walter Dotson, M. D.,
Lebanon.

The rhinologist, especially the one who does surgery of the accessory sinuses of the nose, has long recognized the antrum infections and their importance: but it has only been for the past two or three years that internist and general practitioner have realized the importance of locating and draining an infected antrum. This new interest shown by the general practitioner has been brought about and developed by recent study and investigations of focal infections.

While we are especially glad to see this new interest manifested in antrum infections, yet we do not believe that it has yet reached the height of interest which it deserves. The reason I give you for saying this is that the general practitioner and internist, as a rule, in suspecting and hunting for focal infection, place too much stress on the teeth, and almost always send their patient, suspected of having a focal infection, to the dentist. It is true the dentist is of great assistance to the doctor and frequently locates the point of focal infection in either a tooth or deep in the alveolar process, which is usually in the superior maxillary bone and very rarely found in the inferior maxillary bone; but if the dentist fails to locate any especial point of focal infection or thinks, perhaps, he has located part of it and removes the teeth, or gives whatever treatment he may, without avail, and the patient fails to recover or derive benefit from this procedure, as he has been assured by his physician he will, he too frequently becomes discouraged and gives up treatment entirely or changes doctors.

I am compelled to tell you that most infected antrums referred to me come either from the new doctor changed to or from the dentists themselves, with the dentist referring most of them.

It is not my purpose to discuss in this short paper the different forms, divisions and subdivisions of antrum infections; neither shall I attempt to give you the pathology or etiology. If I can interest you in a short practical presentation of an every-day diagnosis and treatment, I shall be repaid for my effort, and feel sure that you will then more thoroughly investigate the authorities on this subject, and I will not impose on you by reading to you textbook copy.

The diagnosis of antrum infection, while not always simple and easy, can be made very sure and positive by making the examination thorough at the first visit of the patient, and this cannot be done without the principle of elimination.

When a patient has already had the similar infections, especially the teeth, eliminated, or is referred to me by either physician or dentist for a diagnosis, I then dispense with all preliminaries and proceed at once with the shortest and surest method for making a diagnosis. But suppose a patient comes primarily to any of us with no idea as to a diagnosis, what symptoms will direct us to examine the antrum? Pain and swelling or discharge and odor. Never expect to find all of these four cardinal symptoms present in the same case at the same time. Pain, with or without swelling in either cheek, should never be dismissed lightly as toothache or neuralgia of the face or jaw without an examination of the antrum of Highmore. Don't be too quick to extract a suspicious tooth or to write a prescription for aspirin, "dope" or some of the "antis." This very patient probably has an acute purulent infection of the antrum and deserves an immediate examination and proper treatment given him.

Don't expect to find swelling of the cheek in all the cases complaining of pain in or about the antrum, but either pain or swelling of the cheek separately or together should attract our attention to an examination of the antrum.

The greater number of antrum cases will present themselves to you without either pain or swelling, and possibly with no history of pain or swelling at any time. The most serious cases of antrum infections coming under my observation have had no pain whatever, so I would say that the absence of pain is not a negative symptom.

Odor, detected by either the patient or physician, should direct our attention to an examination of the nose and both antra. I have recently had two patients, both aged men, complaining of smelling a very bad odor occasionally, with absolutely no other symptoms pointing to the antrum or anything else, and on examination one antrum in each case was found completely filled with thick, foul pus. I could not detect any odor myself until I opened the antrum, but was forced to remain with the patient alone, as both my assistant and nurse left the operating room, vomiting.

Discharge, I regard as the most important symptom, or rather as the most common symptom of antrum infections. Discharge is the most prominent symptom of chronic antrum infection and rarely occurs at the beginning of an acute infection. Discharge and pain are very rare in the same patient at the same time. Where pain is present, especially great pain, there is no discharge, and when the discharge is present there is no pain, but the pain may be followed by discharge, or when the discharge begins the pain ceases. A discharge from one side of the nose only should always lead us to follow it up and try to locate its source, but we should not be misled by having a discharge from both nostrils and dismiss it as a cold, for it is not only possible, but probable, that we may have both antra infected at the same time. I am very sure of this now, as I have a double antrum infection case on my hands at present. This discharge may be either mucous or purulent, or mixed. By "following up" this discharge is meant to clean out and dry the entire nasal cavity and then wait and again inspect the nose, with the head in different positions. to locate the point from which the discharge flows. If the discharge is found to be flowing from under the middle turbinate, it does not necessarily follow that it is coming from the antrum, but may come from either the maxillary antrum, frontal sinus or ethmoidal cells. When this is found, instead of trying to cocainize and pack off the frontal sinus opening and the opening to the ethmoidal cells to determine whether the discharge then continues, and if it does, that it comes from the maxillary antrum.

I carry the patient into a dark room and with the aid of the hood and a good strong antrum transilluminator in the mouth, examine both antra by transillumination. While I use transillumination in every case as a routine, and if both antra are found to be perfectly clear, and in the absence of any other important symptoms, I can feel almost sure than the antra are not infected. If either antrum is found dark or partially dark, I do not make a diagnosis of antrum infection on this finding alone, but do not stop here. This darkness or cloudiness is suspicious enough for us to open the dark antrum with a large troclar-canula and wash it out thoroughly with warm sterile water. Washing the antrum thoroughly and examining the contents of the washings is the one and only sure way of making a diagnosis of antrum infection. This washing makes a diagnosis, or confirms a diagnosis, and if negative, does no damage, but if positive serves as an initial treatment.

We should not require any of the symptoms before named to be present before we make an examination by transillumination and puncturing the antrum wall and washing out its contents, if we are suspicious of an unlocated focal infection, for many of the focal infections are located in the antrum as well as the other nasal accessory sinuses, teeth and tonsils. These, however, were not intended to come within the scope of this paper. This puncture is made with a large, strong trocar-canula near the floor of the nose under the anterior third of the lower turbinate. It is not necessary to sacrifice any of the turbinate for this, and it is almost painless if packed for ten minutes with tampons of 10 per cent cocain.

Treatment.—The treatment of all cases is drainage. Unless the case is serious, or unusually severe at the beginning, we usually use the trocar and thorough washing of the antrum with warm sterile saline solution every second day for a week or ten days, and if improvement is noted, this is continued longer, and possibly at longer intervals until well. Drainage, washing and then injecting the clean empty antrum with a solution of silver will cure the milder cases in three to six weeks. If the case does not improve under this treatment in two weeks, or if it is a severe case from the beginning, acute and painful, or if an old chronic case with thickening of the mucous lining, containing granulating or polypoid tissue, or if there is necrosis of the bony wall, a radical antrum operation will be required for relief. I usually do a combined operation, but always do the intra-nasal.

If doing the antra-nasal alone, it is done under cocain anesthesia, and if doing a combined operation at the same time it is done under ether anesthesia.

The antra-nasal operation consists of cutting away the anterior third or half of the lower turbinate, and then removing the wall between the nose and antrum from the lower border of the middle turbinate above to the floor of the nose below, and as far both forward and backward as possible. This is for thorough and permanent drainage; in fact, if enough of this wall can be removed it practically makes one cavity out of the nose and antrum. By using sharp curettes bent at different angles, most of the antrum cavity can be curetted. The cavity is now packed with iodoform gauze tape for 24 hours, and then replaced loosely with xereform tape gauze daily or every second day until well.

If the antrum is filled with granulation or polypoid tissue or there is necrosis of the bony wall, then it is best to do the combined operation, which consists of the operation just described, with an additional opening from the outside through the canine fossa. This is done by elevating the periosteum from below the fossa up, and removing a button of bone with an antrum trephine. This opening can be enlarged with biting forceps if necessary. The advantage of this opening is that with the aid of the head mirror and a large ear speculus, the entire cavity can be thoroughly curetted under inspection.

In closing I want to say that I have never yet seen any cure resulting from either stock or autogenous vaccines, and have discontinued their use.

Get behind the United War Work Campaign, November 11-18: $170,500,000.

PRELIMINARY REPORT OF RADIUM CASES.*

By E. T. NEWELL, M. D.,
Chattanooga.

I will not intrude upon your valuable time tonight by going in detail into the history, chemistry and physics of radium and its combinations further than to call to your attention that radium was discovered accidentally by a French chemist, Madam Currie, in 1899. She noticed that some photographic plates contained in a case in the room in which she was experimenting chemically were spoiled and was at a loss to account for it until, finally, it was proven that the new element, radium, that she had isolated was radio-active and for this reason she gave it the amme of radium.

Radium is found in pitchblende in combination with uranium. It is said that wherever you find uranium you will find radium, and all ores that contain uranium in any quantity are worked for radium. There are now in the United States two large radium manufacturers, one in Pittsburgh, Pa., and the other in Chicago. Dr. Howard A. Kelly of Baltimore and a few associates in New York manufactured radium a few years ago for the former's own personal use, until they had produced something over $500,000 worth. After this amount was manufactured, they discontinued this plant. At the present time Dr. Kelly probably has more radium than any single physician in the world. From 60 to 100 milligrams of radium is considered a working unit, and the only advantage in having a larger supply than this is that you can treat a greater number of cases at the same time. One hundred milligrams of radium is about the limit that is ever applied to a patient at one time, although two, three, four or five hundred milligrams of radium have been used at one time on a patient, but necessarily the time of use is shortened in proportion to the quantity used. An average sitting for radium applications is 500 to 1,000 milligram hours. This means 100 milligrams of radium applied for five to ten hours or 50 milligrams of radium applied for ten to twenty hours. There are three rays emanating from radium, *alpha, gamma and beta.* All of these rays act upon normal and pathological tissues to a greater or less degree. The alpha rays are very weak and only extend out a short distance from the radium element. They are very irritating to the skin and superficial tissues, and for that reason are seldom, if ever, used as a therapeutic agent. They are gotten rid of in the application of radium by what is known as "screening." This can be done with rubber, by platinum, by silver, by brass, by wood, but is most effectually accomplished by lead screening. The beta rays are more active, more penetrating than the alpha, and are used therapeutically. The gamma rays are the hard rays, are very penetrating and are the real active therapeutic agent of radium. The beta and the gamma rays, as well as the alpha, can be partially or completely screened (cut off) by suitable material, lead.

---

*Read before the Chattanooga Academy of Medicine and Hamilton County Medical Society.

There are many forms of applicators for applying radium to pathological conditions, but two forms stand out most prominently, the flat applicator for superficial surfaces, as epithelioma of the face and trunk, and the glass tube containing the radium salt encased in a silver sheath with a screw cap. These two applicators, I present to you tonight. Some of these silver cases are needle-pointed, so that they may be thrust into the substance of the tumor and left there for a definite number of hours. The usual method, however, is to place the silver tube in a brass capsule and around this is place rubber tubing. The brass and the rubber are for screening, only permitting the active non-irritating gamma and beta rays to chemically affect the pathological structures.

I may say that the application of radium is entirely painless during and after its application. Its insertion in practically all cases is without pain. As a practical illustration, I will outine its use in carcinoma of the uterus: The radium is prepared, if it is to be inserted into the uterus, by screening with brass and, if thought best, with rubber, too, and taken to the patient's room. The patient is prepared as if for a vaginal treatment. With the speculum in place, if the cancer is within the cervix, the radium capsule is grasped with a pair of radiu mforceps or any ordinary long forceps and carried up into the uterus until it is out of view. A silk cord is left attached to it and is stuck to the buttocks on the outside with adhesive plaster. The vagina is snugly packed to prevent the radium from escaping into the vagina, otherwise you might lose its efficacy on the diseased tissue and seriously burn the normal tissue in the vagina. If the vaginal portion of the cervix is involved, the radium is thoroughly screened and applied directly against the diseased tissue, packing and locating it with the silk cord as aboe outlined. If using 50 to 100 milligrams of radium, it is left in place for ten or twelve hours according to the condition present. The patient is required to stay in bed and use a bed pan under the supervision of a nurse. This is to prevent dislodging it and the possibility of losing it.

In carcinoma of the breast, after completely removing the breast and axillary tissue, the radium is screened and placed in the wound and sutured over, leaving a cord attached and an opening at the lower en of the incision for its exit. Each two hours the radium is moved an inch or two, so that it may act upon any and all cancer cells left following the operation, until it finally emerges from the lower end of the wound. These two cases will give you a general idea of the application of radium in tubes in two of its most useful applications. In epithelioma of the lip with no glandular involvement, the flat applicator containing 10 milligrams of radium salt is the method of preference. This applicator is simply screened with thin rubber, say from a rubber glove or with very thin sheaths of aluminue, and applied every week or ten days for from two to three hours at a time. A few applications of this kind will usually suffice to eradicate the disease. After the epithelioma has healed it is usually customary to apply 10 milligrams of radium *unscreened* for one hour. This will produce an erythema of the area to which it is applied and seems to have a beneficial effect in preventing the return of the epithelioma later on.

Radium, like the Roentgen x-rays, has been recommended and is recommended as a palliative and a cure in many conditions. As to its value in all the conditions for which it is recommended I am unable to say, as my limited experience of only one year in its use has not covered half of the conditions which the radiologists and radio-therapeutists throughout this and other countries are now using it for.

In the past year I have used radium in thirty-five cases. In all of these cases I felt that radium was clearly indicated. Some of them have been cured, some of them have been benefited and none of them, as far as I know of, have suffered any ill effects from its use. When I say *cured,* I use the term advisedly, for I do not believe that any malignant neoplasm should be considered cured until five years have elapsed since any vestige of the disease has manifested itself.

There were nine cases of carcinoma of the cervix. Of these two are dead, seven living, and of these seven two have ceased to improve and will not live probably more than six months. Of the five remaining, three of them have no microscopical appearance of the disease and are not under treatment. The remaining two are under treatment, having been only during the past month. Nearly all of these cases were late cases, came to me as a last resort and were in a dreadful condition. One of the two that died had previously been operated on for carcinoma of the uterus, and the two that are not going to live are postoperative cases. I should say that in every case above outlined the patient made a decided and positive temporary improvement, gaining weight and strength and getting rid of the foul discharge and hemorrhage. It was really marvelous in some cases to see the radical improvement that took place within two to three weeks after the first application of the radium. It is thought by some radio-therapeutists that this beneficial effect so frequently seen in the severe cases is due not only to its effect upon the malignant disease per se, but upon a secondary effect upon the haemoglobin of the blood which is said to become radio-active, and this in turn is carried to all parts of the body, having decided beneficial physiological effect upon the entire body. As to this theory I am not able to subscribe, but for the marvelous improvement these patients do make following radium application I am able to vouch.

In this series of cases I have had two cases of fibroid of the uterus that have been materially improved by the intra-uterine application of radium. My attention was first called to the use of radium in fibroids of the uterus in that celebrated controversy that took place in Richmond, Va., at a meeting of the Southern Medical Association in 1914 between Dr. Howard A. Kelly and Dr. W. L. Rodman. Dr. Kelly made the statement that fibroids would be rapidly reduced in size in nearly every case under radium treatment properly applied. Dr. Rodman took strong issue with him and the atmosphere was filled with sparks from these two brilliant lights on this occasion. After the meeting adjourned I met Dr. Kelly and asked him again if it was really true that the fibroids decreased as rapidly as he had stated. He assured me that they would. At the 1917 meeting of the American Medical Association in New York, I met Dr. John D. Clark of Philadelphia and he told me the same thing and invited me down to his clinic to see some of his cases. When I walked into his operating room I found him operating upon a large fibroid of the uterus, and I wondered why he had not used radium in this case. After he had opened the abdomen he turned to those of us who were witnessing the operation and said: "I will almost wager my reputation that after I take this tumor out you wil find that it is a submucous fibroid because this woman has had three applications of radium in the last six months by the best radium man in this city and it has had no effect." Following the operation he incised the tumor and it proved to be a fibroid of the type he had spoken of. He then explained that radium had little or no effect upon sub-mucous fibroids, but that it affected all other fibroids beneficially.

The two cases of fibroids that have come to me were benefited greatly by the two treatments that I gave them, so much so that they failed to return for further observation and treatments, and I do not know just what their condition is today. When I last examined them the tumors had decreased decidedly in size, so much so that the patients were able to recognize the diminution. I regret very much that they did not continue their treatment, as I am anxious to know of my own knowledge just what the ultimate outcome of these cases will be. A third class of cases involving the uterus that I applied radium in are the metorrhagias. A young woman had been "hemorrhaging" off and on almost continuously for eighteen months. She was terribly emaciated, weak and nervous and had been curetted twice for this trouble by a competent surgeon of this city. She had tried all of the usual and ordinary medicines for her ailment, with no relief. I applied 50 milligrams of radium for two hours within the uterus, ten days apart. She did not menstruate for six months, then she began to menstruate and por the past five months has menstruated normally each month. She was a little afraid, after not menstruating for several months following the application of radium, that she would never menstruate, but as she had only taken 100 milligram hours at each treatment, I did not fear the ultimate outcome. She has gained weight and strength and is back at her work. I do not know whether her trouble will return or not, but feel very much gratified at her present condition. A second case very similar to this, who had endometritis and cervicitis with too frequent menstruation, received, following a cautery treatment of the cervix, 60 milligram hours of radium eleven months ago. She was an out-of-town patient and I had not seen her until last week, when she reported that she had menstruated regularly and normally ever since.

In addition to the 9 cases of cancer of the uterus, 22 fibroid of the uterus, and 2 cases of metorrhagia, we have treated 19 cases with radium within the past year, distributed as follows: Cancer of the breast, 8; sarcoma of the neck, 1; epithelioma of the nose, 1; sarcoma of the tonsil and pharynx, 1; cancer of the prostate gland, 1; sarcoma of the parotid gland, 1; epithelioma of the lip, 1; sarcoma of the sternum, 1; and the remaining four were nevi, keloids and tuberculous and mixed infection glands. Of the 8 breast cases one is dead. This one was post-operative, having followed a complete operation for cancer of the breast a year ago by a competent surgeon. The radium eradicated the disease in the line of incision where it had occurred, but she had a metastasis in the thoracic cavity causing it to fill up with a bloody serum, this terminating the case. A second, who had no involvement of the axillary glands, improved so much that the glands were removed surgically later and is doing well. Two of the remaining cases improved, but only took two or three treatments and have not been heard from in the past four months. The remainder, four in number, are under treatment, one is stationary, the balance are improving but are recent cases and I cannot say what the outcome will be.

The one case of sarcoma of the neck was operated on by Dr. Charles Mayo, in April, 917, and received his first radium treatment at the Mayo clinic. Dr. Sistrunk of the Mayo Institution wrote me that he was unable to remove all of this tumor and requests that I give him radium therapy every three months. When he came to me his neck was very stiff board like and he was not able t oturn his head completely around. The affected side of his neck was laid off in squares about 1½ inches square. He received in all nine treatments at two-day intervals. I did not see him for three months after this and when he came back for his second treatment the hardness, the stiffness and the soreness had all disappeared and he was loathe to believe that he needed another course of treatment; however, the treatments were repeated as they were in the first instance. I have seen him again within the last three months, and he feels and looks perfectly well. He refused to take further treatments, although I think he should do so. I had no idea when I treated him the first time that he would be living in a year. This case bears out the opinion of others that sarcoma is much more amenable to treatment by x-rays and radium than is carcinoma.

The case of epithelioma of the nose was in a man 74 years of age who three years ago had been treated by x-rays for the same condition, but had had a return for the past two months. He was in the sanitarium and had operated on for an enlarged prostate gland. The treatment was given during the month that he stayed in the sanitarium and consisted of three treatments with 0 milligrams of radium screened with rubber, each application lasting one hour, with a final application without screening. The epithelioma healed in about six weeks. It has now been ten months since this treatment was completed and there is no evidence of a return.

The case of sarcoma of the tonsil and pharynx was one that had been operated on twice before. The radium application followed the second operation. He has only had three treatments, and as it was only May 1st when the treatment began, it is too early to prognosticate in regard to this case, except to say that so far there is no return.

The cancer of the prostate gland in the above series only received one treatment and had not been heard from since. He was in a dreadful condition when he came and has since died.

The sarcoma of the parotid gland case was a very interesting one. He received in all three treatments. The tumor disintegrated rapidly following each treatment and the broken-down ulcerated skin healed entirely. Two months later he returned and, knowing that when a malignant tumor returns following the use of radium it is useless to apply it again, I withheld the treatment. I attempted to remove the major portion of the gland surgically, tying the external carotid artery on that side with the hope of starving it out and prolonging his life. This I succeeded in doing, for he improved for two or three months thereafter, but the last time I sa whim, about two months ago, he was on the down grade again and no doubt is either dead now or will be soon.

The epithelioma of the lip was a post-operative case following a very complete V-shaped operation that I did on this man four years ago for the same trouble. His lip would not stand a second V being removed, and he did not wish another operation. He had four applications of radium in as many weeks with complete healing of the condition. It has only been 10 weeks since he took his last treatment and of course I cannot say what the outcome of this case wil be.

The sarcoma of the sternum case was one in which I did a combination treatment, removing surgically all of the tumor that I dared remove down to the plurae; then applied the cautery to the edges of the bones and left the radium *in situ* for twenty-four hours. The wound healed only to return in about six weeks about an inch higher up. As in the former case cited, I told her that radium would be useless in her case, as well as any operative procedure. Her physician wrote me three months later that she had died suddenly from a severe hemorrhage in the pleural cavity.

Of the remaining seven cases of nevi, keloids and glands, all have improved. One of the cases of glandular involvement improved to a certain extent, but had to have two small nodules removed under local anesthesia. This case was treated with helio-therapy and general tonic treatment as well.

The above cases are simply a prelimary report of my first year's work with radium. There are many facts and interesting points bout radium and its treatment that I cannot detail to you in a paper so brief as this one. The combination of radium and x-rays, one supplementing and supporting the other, is a very interesting theme, and one that radiographers and radio-therapeutists are working out together. There are many cases where either one is applicable. There are a few where x-ray is preferable and still a large number where radium is clearly and solely indicated.

In conclusion, I trust that you will draw your own conclusions from these few cases that I have enumerated and that you will feel that while radium and x-rays have their limitations (not cure-alls), they are very valuaple therapeutic agents when properly, justly and honestly applied and have a wide field of usefulness. I hope to have the pleasure in another year of reporting to you my second year's experience with radium and x-rays in this field.

PREVAILING INDICATIONS FOR COMPLETE ABLATION OF THE TONSILS AND ADENOIDS.

By N. E. Hartsook, M. D.,
Johnson City.

Perhaps there are a few members of the medical profession who regard this a hackneyed subject in view of the fact that there has been so much written during the past few years concerning the pathology of tonsils and adenoids and the technique of the various methods of operative treatment. But it must be remembered that what knowledge of the pathology of these tissues we now have began with a period of time not yet dim in the remoteness of the past. As a matter of fact, such definite clinical knowledge of tonsil pathology as we can feel certain of today has been achieved mostly within the last two decades. Also many important improvements in the technique of tonsil surgery have been accomplished within the last ten years. Be assured, notwithstanding these highly gratifying recent advances, there is much yet to be learned with reference to the end results of tonsil pathology and, perhaps, many improvements may yet be achieved in the technique of tonsil surgery. Also, be asured that we know but very little, indeed, concerning the part performed by the tonsils in the physiology of the system during health; that we know practically nothing regarding the influences, if indeed there be any, of healthy tonsils over the processes of disease, and that such knowledge of these influences as we have, if we have any at all, amounts to but little more than mere conjectural hypothesis. We must acknowledge the fact that about all we really know concerning the physiology of the tonsils is that they comprise an exceedingly small portion of the lymphoid tissue of the body and to a very limited extent possess functions in common with the lymphoid tissue of the system as a whole. Limited in extent by reason of location and peculiarities of anatomical structure, the function of the tonsile has always been a puzzling problem, the solution of which to the present time remains in the domain of hypothetical speculation.

There is one fact, however, of which we are reasonably certain. Individuals whose tonsils have been enucleated, provided the technique of the operation was skillfully carried out, have as good health and live with as much comfort as they had before their tonsils became diseased. There is much evidence that tends to establish the fact that tonsils are not at all necessary to either longevity or comfort.

The experiments of Wright and a few other investigators have demonstrated that the pavement epithelium covering the faucial surfaces of the tonsils possesses a biochemical property by which access into the tonsil tissue by pathogenic micro-organisms is very greatly hindered. The micro-organisms become pasted onto and enmeshed with the epithelial cells and may remain there for indefinite periods of time. This results from a viscous exudate whic his thrown out by the epithelium. By this process of screening out pathogenic micro-organisms it may be said that the healthy tonsil, or rather the mucous membrane covering its faucial surface, affords its possessor some protection against bacterial invasion. This applies particularly to tonsils i na condition of health and must not be considered in any way whatever a part of the physiological function of the tonsil tissue.

But the loss of the tonsils by a skillfully performed operation does not deprive the individual of this protection. After a tonsil has been completely ablated and the fossa tonsillaris filled in by granulation tissue, the mucous membrane covering the new tissue over the site of the enucleated tonsil has this same biomechanical property. Therefore, the new mucous membrane covering the new tissue in the sinus tonsillaris supplies protection to the individual against bacterial invasion which is fully as adequate to meet the requirements as the protection supplied by the mucous membrane which covered the tonsil while it was in perfect health, and that, too, without the presence of the crypts which in even the most healthy tonsils are always a menace to some extent at least to the health of the individual.

So far all that has been said of the tonsils will apply to adenoids also, so far as the anatomical relations of the adenoids will permit. However, owing to the location of adenoids and the intimate relations which they sustain to other important structures there are pathological processes which are peculiar to them that must be differentiated. Nevertheless, there are some pathological conditions which may be appropriately regarded as common to both tonsils and adenoids by reason of the intimate reciprocal relation to other structures which both sustain. For example, both are prominent in the etiology of some middle ear diseases and mastoid infections. But with few exceptions the pathological involvements proceeding from the tonsils and from the adenoids are widely different and a clear clinical distinction should be made.

For the sake of clearness in presenting this discussion it is necessary to review briefly the clinical anatomy of the tonsils and of the adenoids are widely different and a clear clinical distinction should be made.

For the sake of clearness in presenting this discussion it is necessary to review briefly the clinical anatomy of the tonsils and of the adenoids. This of necessity must include the intimate relations they sustain to other highly important structures.

The faucial tonsils are located on either side of the throat in the faucial ring which separates the mouth from the pharynx. Perfectly normal tonsils are quite small and it is important to remember that a case in which they can be either seen or felt is a rare exception. They are embedded in the sinus tonsillaris between and partly beneath the faucial pillars on either side and are formed by an invagination of the hypoblast at these points. The tonsil is encapsulated over its entire outer surface by a thin layer of connective tissue which separates the tonsil tissue from a layer of peritonsillar lymphoid tissue. This peritonsillar tissue is very distinct from the tonsil tissue and is not known to enact any part in the etiology of any pathological process. I pause to remark in this connection that this layer of peritonsillar lymphoid tissue should never be mutilated in doing a tonsilectomy for the reason that it serves as a support for and tends to preserve the individuality of the muscles contained in the faucial pillars. During the process of development the tonsil is divided into from eight to twenty tubular depressions by connective tissue trabeculae thrown in by the fibrous capsule. These tubular depressions are known as crypts and extend from their ostia on the faucial surface through the entire depth of the tonsil terminating in a blind extremity against the capsule. The epithelium covering the faucial surface of the tonsil is invaginated into and lines the crypts throughout. The tonsil is profusely supplied with efferent lymphatic vessels which empty into the cervical chain and thence into the thoracic duct. It is entirely destitute of effertnt lymphatic vessels. This rather odd lymph vascular arrangement is of importance in that it tends to facilitate absorption of toxins.

The sinus tonsillaris is bounded anteriorly by the anterior pillar which contains the palatopharyngeus muscle and externally by the superior constrictor muscle of the pharynx. The substance of the pillars consists almost entirely of the palatoglosus and palatopharyngeous muscles, both of which have their origin in the tissues of the soft palate and are inserted into the tongue and pharynx respectively. These two muscles, together with the superior constrictor, perform an important role in tonsil pathology as will be seen. The sinus usually under mines the pillars, especially the anterior pillar, to some extent, and, consequently, the tonsil is partly covered. If the undermining is very considerable in extent, it accounts for the so-called "submerged" tonsil.

The pillars unite above to mingle with the surface of the tonsil is loosely covered by the tissues of the soft palate. The upper, inner plica supratonsillarris which covers the space immediately below the union of the pillars. A few of the crypts have their openings under this membrane and extend downward and outward. The plica tonsillarris covers the anterior portion of the tonsil with usually a few crypts opening under it and extending outward and backward.

This anatomical arrangement has a highly important influence in the etiology of tonsil pathology. The action of the palatoglosus, the palatopharyngeus and the superior constrictor muscles on the tonsil can be readily understood. These muscles contract during every act of swallowing and yawning and the movements of the tongue which subjects the tonsil to alternate compression and relaxation. If the crypts, and especially those which open under the plicae tonsillaris and supratonsillaris, contain particles of food and debris, the action of these muscles drives the decaying masses deeper into the crypts. When the muscles relax the ostia of the crypts are again patulous and ready for the reception of a new supply of foreign matter. These processes go on alternately until the crypts may be completely filled with compacted masses of decaying debris which in many instances can be seen as dirty, grayish masses dotting the faucial surfaces of the tonsils. This is especially true of tonsils which are deeply embedded in the fossa tonsillaris.

It would appear, naturally, from these considerations alone that all tonsils would inevitably be diseased. However, we know this is very far from being true. The ostia of the crypts contain nothing more than the debris which is normally thrown off by the epithelial cells. Then the epithelial lining in addition to the biomechanical property already mentioned has also a biochemical property by which, under the irritation of encapsulated bacteria, a ferment is thrown out which neutralizes bacterial action and maintains an equilibrium between health and disease. In consequence of the biochemical property of the cryptal epithelium, even though the crypts contain extraneous matter and debris, in not a few individuals this condition may remain for many years or until the tonsils undergo atrophic changes due to advancing age and cause no annoying symptoms or at most nothing more than some slight faucial or pharyngeal irritation. As long as this process of bacteriolysis continues undisturbed, bacterial invasion is effectually held in check.

But let some disturbing influence, either local or systemic, intervene and conditions change. The bacteria become active and proliferate rapidly. They throw out toxins which neutralize the ferment of the epithelial cells; the cells are macerated and destroyed, and bacterial invasion spreads, producing in the tonsils and peritonsillar tissues annoying or distressing symptoms which may be either acute or chronic. The invasion may not be so mild as to set up local disturbances only. The restraining barrier once broken, the forces of nature may be wholly unable to repair the breach, and bacteria may enter the lymph stream and be carried to remote parts of the system and set up very grave conditions there. As an example of widespread bacterial invasion with a focal starting point in the tonsil, it is only necessary to mention that it is now wel known that many cases of pulmonary tuberculosis, tuberculosis of the cervical, the axillary and other lymphatic glands and tubercular osteomyelitis are caused in this way. It is also well known that infected tonsils are closely associated with and, perhaps, have a predominating influence in the etiology of rheumatism and endocarditis. But it is not necessary to multiply examples.

These pathological processes may start from either the protruding or the submerged tonsils. My own clinical observations of tonsil pathology have long since convinced me that tonsils which have burrowed under and are largely concealed by the pillars and the pricae tonsillaris and supratonsillaris are more frequently responsible for disastrous, remote infections. Such tonsils are more difficult to detect and in many cases, unless a careful examination be made, may be overlooked. In the submerged tonsil a disturbance of bacteriolysis is more easily induced, and for mechanical reasons drainage of poisonous products is conducted chiefly into the lymph stream. If the patient has a high opsonic index he may yet live in a vague degree of health for a variable period of time. But his opsonic index once depreciated, his health fails and his condition becomes precarious or even critical.

Hypertrophied tonsils in addition to their serving as the foci of various infections are also responsible for complications of a purely mechanical nature. If they protrude prominently toward the median line of the throat, they interfere with the act of swallowing and muffle the voice. If hypertrophied to any marked extent, whether protruding or submerged, they place a mechanical obstruction against the normal action of the palatal muscles. The normal action of these muscles, especially the levator and tensor palati which are assisted indirectly by the palatopharyngeus, is i part to open the pharyngeal orifices of the Eustachia ntubes during the acts of swallowing and yawning. Hence it follows that any interference with their normal action has a tendency to keep the Eustachian orifices constantly more or less closed, which in turn interferes with or prevents proper ventilation of the middle ear. This is either accompanied or shortly followed by exhaustion of air from the middle ear, either partially or wholly, retraction of the membrana tympani, negative pressure congestion, middle ear catarrh and progressive failure in acuteness of hearing. The middle ear complications may begin with very mild acute attacks which come and go with the succeeding colds to which such patients are usually very susceptible, or, in the absence of a cold, sudden changes of weather may be the exciting cause for many attacks. Each attack tends to establish the chronicity of the complication. However, a large percentage of these middle ear complications are essentially chronic from the beginning.

It is hardly probable that hypertrophied tonsils, even though not so greatly enlarged, would fail to cause chronic inflammatory troubles in the throat. It is common experience to observe cases of chronic pharyngitis and epipharyngitis for which no cause other than hypertrophied tonsils ca nbe discovered. The pharyngeal involvement is commonly associated with hypertrophy of the mucous and submucous tissues, which further interferes with the action of the palatal muscles. The whole nrrep pharyngeal mucosa is commonly coated over with a layer of tenacious, ropy mucous and the orifices of the Eustachian tubes are frequently blocked with plugs of mucous. These chronic secondary inflammations may extend through the entire length of the Eustachian tubes and invade the middle ear, bringing on a chronic tubotympanic catarrh, which is always associated with a progressive reduction in acuteness of hearing and, if not relieved, may finally result in almost total deafness. In the event the patient contracts some inter-current infectious disease, for example, influenza, the middle ear and mastoid cells may in a very short time become the seat of a violent purulent infection for the relief of which an early mastoid operation is imperative. The mucous that covers the pharyngeal mucosa in these cases is so tenacious that it is with difficulty that the patient can dislodge and expel it. It is laden with bacteria of various kinds which usually remain dormant until the intercurrence of some infectious disease, such as measles, scarlet fever, diphtheria, influenza, or even a common cold excites them into virulent activity.

It is the rule during childhood and not infrequently occurs in early adult age that enlarged tonsile are associated with adenoid vegetations. The foregoing statements referring to the local catarrhal involvements caused by diseased tonsils apply to adenoid vegetations with increased emphasis. During childhood adenoids are far more frequently responsible for middle ear complications than are the tonsils. When it is remembered that adenoids are located in the vault of the pharynx in close touch with the pharyngeal openings of the Eustachian tubes and in many cases exert direct pressure on these orifices, it is not surprising that they are so frequently responsible for very destructive complications in the midde ear and mastoid cells, which in not a few cases involve the meninges and brain. By reason of location in the nasopharynx they partially or wholly obstruct nasal respiration and mouth breathing with its evil results cannot be avoided. Every act of swallowing produces negative pressure in the vault of the pharynx. Instead of the middle ear being properly ventilated the air is exhausted from it and congestion of the middle ear and the nasopharyngeal tissues is almost constantly maintained. This is assoliated with a thick, ropy, germ,laden mucous, much of which the child usually swallows and when swallowed may set up serious digestive troubles. To children who have adenoids, measles, scarlet fever and diphtheria are especially disastrous, because of the great frequency of destructive purulent middle ear and mastoid complications.

However, while all children with adenoids are eminently predisposed to these destructive processes, some of them escape these immediate disasters only to suffer from a train of consequences more remote but in many cases not les distressing. It is now well known that a large percentage of ear affections in the adult have their incipiency in childhood for which adenoids are responsible. These constitute a large number of the cases of incurable deafness which have advanced insidiously ,without marked inflammatory symptoms. The tubotympanic congestion is associated from the beginning with an exudate which is poured into the middle ear. The exudate finally becomes organized and adhesions, ankylosis of the osicles, stenosis of the Eustachian tubes and deafness more or less complete are the final and almost wholly incurable results.

In addition to these very distressing complications the inability to breathe through the nose brings on another train of consequences which is equally grave. Children with adenoids, in many instances, are incapacitated mentally. In marked cases a semi-idiotic facial expression is noticeable. As a rule they do not succeed well in school and often they are thought to be very dull pupils; but once they are relieved of their adenoids, many of them are found to be intellectually very bright. If neglected, many of them develop nito a condition of lifelong imbecility. During childhood is the time of life when the bones of the face are in process of development, and it is during this time that mouth breathing, which is always associated with a faulty action of the facial muscles, will eventually result in malformation of the facial bnoes. This accounts for many cases of high arch of the hard palate, deflections of the nasal septum, stunted development of the maxillary bones with irregularities of the permanent teeth and many other defects that are very hard and in some coses even impossible to correct. Not by any means least among these deformities is dwarfed development of the nasal passages due to the inability to breathe through the nose during the developmental period of life. These cases to a great extent become mouth breathers for life and, owing to a lack of ventilation in the nasal chambers, the way is paved to future infections of the accessory nasal sinuses.

It is not the purpose of this paper to indulge in a detailed differential symptomatology of the complications o ftonsil and adenoid pathology. The aim has been to comprehensively outline in a general way the pathological conditions that make the complete ablation of the tonsils and adenoids not only justifiable, but absolutely necessary.

Neither has it been the purpose of this paper to advocate any special method of operative technique. Every operator has his preference. However, in concluding I want to strongly emphasize the utter futility of any conservative or tentative method of treatment when confronted by such an array of pathological conditions. The radical removal of the tonsils and adenoids is the only treatment that is worthy of the name of treatment. The medical treatment of these cases, except in acute exacerbations, is worse than useless. It is a waste of time. To incise and curette the tonsil crypts is seldom or never productive of satisfactory results. The same may be said of the results obtained by the use of the electrocautery. To successfully treat ears with a chronic purulent discharge or noses with a chronic catarrhal discharge in children who have adenoids it is absolutely necessary first to remove the adenoids. The physician who purposely and wilfully neglects this first essential step in the treatment of such cases is guilty of gross malpractice. It is the duty of every physician to explain fully and in the plainest language to the parents or guardians of these children the nature of the child's affliction and the disastrous consequences that may result if neglected. Then parents or guardians who wilfully refuse to hve the proper operative treatment instituted after the nature of the case has been fully explained to them, commit an unpardonable outrage against the child's inherent right to health, happiness and future efficiency in the business prospects of life, which partakes to some extent at least of the nature of a crime, the degree of which can be determined only by their intellectual ability to comprehend the responsibility which they assume.

HOW MAY WE BETTER CONSERVE VISION: A SPECIAL PLEA FOR MORE EFFECTIVE MEANS OF PREVENTING TRAUMATISM.*

By L. M. Scott, M. D.,
Jellico.

We are informed by the National Committee for the Prevention of Blindness that approximately 200,000 accidents to the eyes occur in the United States every year, and that 15,000 persons in this country are blind today as the result of accidental injury in industrial occupations. The report further states that in one county in the State of Ohio one eye is lost every eleven days. In the last report of the Bureau of the Census with respect to the blind in the United States, we find the following statement with reference to causes: "In every division of the United States except the East North Central, a larger per cent of the total number of cases of blindness for which schedules were returned were due to accidents than any other specific cause named."

---

*Read before Section of Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Memphis, April, 1918.

From these statements we can readily agree that the most important question in the matter of vision to industrial workers is that of protecting them from accidents which which cause the loss, or great impairment, of sight. Anticipating the number of our men who will be blinded from wounds received while engaged upon the European battle fronts during this great world war, we can at once foresee the terrible results our next census will show, when we observe from it the total number of blind in this country. It behooves us, then, as eye surgeons, to lend our best efforts in an endeavor to minimize the danger of accidents to the eye, as well as to skillfully treat those who may receive eye injuries while engaged in civil pursuits here at home.

Opthalmia neonatorum has proven so disastrous to vision that practically every State in the Union has enacted laws regulating the practice of physicians and midwives, looking to the prevention and cure of this, as well as all other infectious diseases of the new-born. In this connection it is very gratifying to note the splendid results from enforced prophylaxis in the city of Nashville during the year 1917, as reported by Dr. W. E. Hibbett, Health Officer for that city. Dr. Hibbett states that during this period not a single known case of blindness from opthalmia neonatorium resulted in Nashville, and that the prompt enforcement of the law, keeping strict watch upon physicians and midwives known to be careless, early administration of preventive and curative measures, proved the main dependency in combatting this trouble. While this is as it should be in the matter of conserving vision in the new-born, yet how much more could be accomplished if we could add to this a statutory act by each State requiring all employers of industrial labor, where the work engaged in is especially hazardous to the eye, to safeguard their employees by regular and systematic inspection of machinery or places of employment, and to see that all such employees are supplied with a suitable eye protector and required to wear same while engaged at such hazardous labor. We know, of course, the prejudice upon the part of most men of this class against the wearing of any kind of glass or goggle while at work; yet, after they have been properly shown the great value of such protection, this prejudice could be readily overcome. As a matter of course, without the full co-operation on the part of the employee in the matter, the results sought would be only partially realized. Grinders, moulders, riveters, machine shop workers, saw filers and coal miners are the classes of industrial workers especially liable to eye injuries. To this we might add those engaged in occupations in which the handling of acids and other chemicals is necessary, as well as in metallic operations, where the worker is exposed to intense light and heat conditions.

Practicing in a community where coal and timber industry is more or less extensive, the writer sees more cases of eye injuries among the miners and saw-filers than any other class of laborers There is hardly a day that I do not have one or more cases of injured eyes to treat for men from the mines or mills; and in all such cases the accidents could have been prevented had a suitable protector been worn at the times of such happenings. Dr. Nelson M. Black, of Milwaukee, states that: "Probably the most frequent injuries to eyes in machine shops are those due to emery sparks. These emery particles are white hot when they strike the eyeball, burn into the surface, and thus make it harder to remove than cold objects which only lodge upon the surface." Those of use who have observed the manner in which these emery particles have been welded to the surface of a glass worn by a workman at the time they flew from the emery wheel, can certainly testify to the fact of their being white hot.

This brings us now to the matter of the kind of goggles or protective glasses that are to be worn. The primary essential of any protector is that it should afford complete protection against any accident for which it was designed. Comfort is another very important factor, and where not contra-indicated, light weight, both of glass and frame, and ventilation should be considered. To the miner, especially that one working in a flinty seam of coal, I am advising the use of a goggle with a double-strength glass and a wire screen for side shields It is very necessary to have the lenses of good material and of extra heavy glass, to prevent them from being broken by flying pieces of coal from the pick In order to obviate the trouble due to fogging or steaming of the glasses, I suggest the use of an anti-sweat pencil, one penciling from which will last six or eight hours. Chippers and riveters should also wear the double-strength lens for the same reason as the miner. Other classes of industrial workers should wear, of course, a lighter goggle, since the danger of a broken lens from a flying particle is slight, and besides, comfort is saved to the wearer. These should be so constructed that they can be worn over a correcting pair of glasses, where such are habitually worn. This adds extra protection to the eyes, and at the same time protects the more valuable correcting lenses against injury from sparks and other minute particles of metal that come in contact with them.

In an article before this Section, at its first meeting in Knoxville two years ago, the writer called attention to the pre-existing infected tear passages as an underlying cause of corneal ulcers, and that an abraded surface upon the cornea was only necessary for the bacilli to gain an entrance. With this idea still in mind, I wish to urge at this time that we lend our efforts in every way possible looking to the prevention of these eye injuries that furnish a point of entrance to whatever type of microorganism may be present. The wound *per se* does not often destroy vision in the wounded eye, but is the exciting cause which is followed by the more serious infection. I could at this time, if space permitted, supplement my former report with more than one case of blind eye due to the foregoing conditions, followed by neglect upon the part of the patients or unskillful treatment by the physician who first saw them. And in this connection I desire again to insist that the laboring class is most prone to neglect injuries to the eye. And, furthermore, of all classes of industrial workers, my experience with miners leads me to believe that they are "the limit" in this respect. Where they will not consent to the wearing of an eye protector while working in the mines, I urge upon them the importance of immediate attention when an injury to the eye is received.

How very important is the matter of safeguarding the man from traumatism who has only one good eye! There have been a number of cases of total blindness to come under my observation within the past few years where the patient had only one seeing eye to begin with, and which could have been saved by proper safeguarding methods. So important is the matter of conserving vision in the only good eye of the patient, that I completely agree with Dr. Gifford, of Omaha, who states that many years ago he reached the conclusion that individuals with only one good eye never ought to go without spectacles as a protection. I had reached the same conclusion before observing his article referring to the subject, and also, as did he, endeavored to pound the force of this conclusion into the minds of all such patients with whom I came in contact. This, of course, should apply not alone to the person with only one seeing eye, but to those with marked impairment of vision in one eye, even though vision in the other may be normal. We should point out the risk such persons are taking by exposing their only good eye to constant danger of injury, and urge the wearing of spectacles, whether any error of refraction exists or not. There is a popular idea among most persons that there is great danger of the eye being injured from a breaking lens due to some violence. This we know to be erroneous, such accidents being very rare, considering the large number of persons wearing glasses. I do not recall a single case occurring within the range of my own experience. One man with a national reputation as an ophthalmic surgeon reports only five during his entire practice. Opposed to this fact, he states that in the same length of time, he has seen 2,300 cases of serious traumatic injury to the eye from other causes, at least ninety per cent of which would probably have been prevented had glasses been habitually worn. Taking into consideration the greater protection afforded, as against the risk involved, there should be no argument against the habitual wearing of spectacles by all persons who have only one good eye. This, as heretofore, stated, should be insisted upon whether or not the patient neede lenses for correction. Such lenses, to afford proper protection, should be made of the best quality of glass, large enough to afford ample covering to the eye, and mounted in a substantial spectacle frame.

DISCUSSION.

DR. G. C. SAVAGE, Nashville: So far as Dr. Scott attempted to go in his paper, he has covered the ground so completely that but little could be said. The injuries he discusses are mainly of the class known as industrial. Farming is not ordinarily called an industrial occupation, notwithstanding the fact that it demands industry to be carried on successfully. Some of the most severe and most to be dreaded corneal injuries in my practice have been among farmers. The cause of the injury in these cases has been some sort of dead vegetation, as a blade of fodder, a sprig of hay or something of that character. These injuries by dead vegetable agencies are in the main severe, because of some deadly germ that seems to attach itself to the particle inflicting the injury. When I can see such injury early, I invariably touch it with a solution of acetic acid, varying from six to thirty-six per cent, depending upon the threatened severity of the injury. Otherwise, I follow the ordinary treatment of such cases, always prescribing for frequent use the following mixture: Tincture of opium, 30 drops; boracic acid, 20 grains, and distilled water, one ounce. I have been compelled to remove several eyes whose injury by dead vegetable matter had appeared to be simple, and hence was neglected.

After the removal of any foreign body from the eye, it is never safe to allow the patient to go away without guarding him aganist infection by the frequent use of tincture of opium-boracic acid wash. I always tell patients who have been injured to report if the eye does not get on well.

DR. SCOTT (closing): Having seen so many cases of eye injury (a number of which being followed by loss of vision) during the past few years in my own community, which in most instances could have been prevented by proper safeguarding methods, and knowing that the same conditions exist elsewhere among industrial workers, I wished to call attention, in the paper I have just read, to the importance of some more effective means of preventing such injuries to the eye. It seems, however, from the discussion, that special emphasis was laid upon the matter of treatment, rather than that of prevention of eye injuries. I wish, none the less, however, to thank Dr. Savage, as well as the other gentlemen, for bringing out so fully the modern idea of treatment of wounds of the eye. Dr. Davis referred to the fact that most of the goggles found upon the market at the present time were very unsatisfactory. I have found the Diamond Safety Goggle, furnished by the Safety First Supply Company of Pittsburg, Pa., to be very satisfactory. The frame is made of strong white metal, which will not rust nor corrode, which permits of being sterilized by either steam or boiling water. The lenses are made of optical glass, heat-treated, of uniform thickness and perfectly clear. The bridge is constructed of four strong electrically soldered joints. The bridge is easily adjusted to suit the individual wearer.

(EDITOR'S NOTE: Other discussions of Dr. Scott's paper have not been sent to The Journal.)

Keep the boys' spirits high and they will 'tend to the Kaiser! Back the United War Work Campaign to the last bit, November 11-18: $170,500,000.

PROPAGANDA FOR REFORM.

The Cause of Hay Fever.—In the regious of the United States west of the Rocky Mountains, hay fever may be produced by an almost entirely different flora from that which causes it in the Eastern States and in Europe. This emphasized the need for determining the exact species involved, in each case before treatment for immunity may be undertaken. It has been found that the type of spring hay fever which is very troublesome in the Sacramento Valley is attributable to a walnut tree pollen (Jour. A. M. A., Aug. 10, 1918, p. 469).

If you're with our fighters, hear and soul, give to the United War Work Campaign, November 11-18: $170,500,000.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

OCTOBER, 1918

EDITORIALS

THE VOLUNTEER MEDICAL SERVICE CORPS UNDER FIRE.

The following letter, with which was enclosed a very severe personal attack upon Dr. Franklin Martin by Dr. William Allen Pusey, of Chicago, has come to the Journal from our well-liked and distinguished friend, Dr. Frank Jones, of Memphis:

"Dr. Olin West, Editor State Medical Journal, 601 Cedar St., Nashville, Tenn.

"My Dear Doctor West:

"In an editorial, 'The Volunteer Medical Service Corps,' in the last Journal, you say: 'It has come to our ears, however, that there are a few doctors in the state who have withheld their applications. Surely these must be laboring under a wrong impression as to the purposes of the Volunteer Medical Service Corps. If they are not, then surely they are simply the wrong sort, men who have no business in the medical profession, and men who are not entitled to citizenship in a country like ours.'

"This, my dear Doctor, is a very broad statement. There are thousands of good doctors in America with red blood in them that would hold any man personally responsible if that man dared intimate to them that they were not doing their full duty. I am one of the physicians in Tennessee who did not sign the application. There are numbers of others in Memphis. Colonel Martin has no authority in any sense. I know first hand, and can produce the proof, whenever it may be demanded, that there is but little harmony between the Surgeon-General's office and Col. Martin. It seems that there is an impression with some that if you do not comply with Col. Martin's dictate that you are a 'slacker.' I am herewith enclosing an article from Dr. Wm. Allen Pusey, which I think expresses the sentiment of numbers of self-respecting physicians who are in no sense 'slackers.'

"I think Col. Martin is 'overstepping the modesty of nature' in trying to overdo things where he has no authority, and not an inch of ground to stand upon. I think, my dear friend, that your editorial is untimely and calculated to make matters even worse.

"With sincere regards, I am, very truly your friend, "FRANK A. JONES.

"October 8, 1918."

The editorial referred to in Dr. Jones' letter appeared in the Journal for September; the "article" by Dr. Pusey appeared in the Journal of the A. M. A. for October 5, 1918.

The first thing we would say in reply to Dr. Jones is that we care little for Dr. Franklin Martin as an individual, though we have no part in the long, long "scrap" that has gone on between factions in Chicago, to one of which, it would seem, Dr. Martin belongs, while Dr. Pusey holds with the other. Dr. Pusey's "article" appears to us to be a direct personal attack on Franklin Martin, and as such we dismiss it, except to say that it assumes things which are not in accordance with the facts as we understand the facts.

The next thing we would say is that we are fully persuaded that Dr. Franklin Martin does not care what we think about him as an individual. The score being equal, then, we will dismiss, as far as we can, Dr. Franklin Martin as an individual from this writing.

The Council of National Defense is and has been from its creation an authorized and recognized body in the service of the Government of the United States. One section of the Council of National Defense is the Medical Section. Here Dr. Franklin Martin comes into this discussion as an authorized agent of the Council of National Defense and an authorized and recognized agent of the United States Government, engaged in a war and obligated to provide medical attention for its soldiers who are sent into active service.

From Dr. Franklin Martin, the executive officer of the Medical Section of the Council of National Defense, have come to the State Committee, Medical Section, Council of National Defense, of which committee this writer is a member and on which committee he has served gladly and to the very best of his limited ability, all instructions and authorizations which have been received. These instructions have been taken by the members of the State Committee as from the Government of the United States at war with Germany and her allies.

From Dr. Franklin Martin, too, authorized and recognized member of the Advisory Board, Medical Section, Council of National Defense, have come to the State Committee all instructions and information concerning the Volunteer Medical Service Corps. Here again these instructions have been taken as from the United States Government engaged in a war with Germany and her allies.

But just why Dr. Pusey, Dr. Jones and other good men overlook the very plain fact that Franklin Martin is not the only man who has been engaged in the work of the Medical Section of the Council of National Defense, and just why they overlook the very plain fact that Dr. Franklin Martin is not the only man engaged in the work of the organization and activities of the Volunteer Medical Service Corps is not apparent to us. Do these gentlemen not know that Dr. Davis, of Philadelphia, Dr. Simpson, of Pittsburgh, Dr. Mayo and others are also concerned?

We do not know anything about the lack of "harmony" between the office of the Surgean-General—we don't even know which Surgeon-General is meant—and Dr. Franklin Martin. What we do know, however, is that three Surgeons-General are members of the Central Governing Board of the Volunteer Medical Service Corps. If the Volunteer Medical Service Corps is a creature of Franklin Martin by means of which he would gather unto himself unwarranted honor, glory and power, why do the names of Gorgas and Braisted and Blue appear as members of the Central Governing Board of the Volunteer Medical Service Corps? And why do men like Davis and Simpson and many others give so much of their valuable time and their valuable services in the work of the V. M. S. C.? And why do they not come in for the censure, or some small part of it, that is heaped upon Martin? The writer saw Davis and Mayo and Simpson and Schereschewski and other men hard at work at the office of the V. M. S. Corps in Washington just a few short weeks since. And these men made more suggestions as to what should and what should not be done and said than did Dr. Martin.

It was also while the writer was in Washington in the office of the Council of National Defense that a request came from the Surgeon-General of the United States Public Health Service that the V. M. S. C. should furnish his office with the names of men who were members of the Corps or who had applied for membership and who would serve in the fight that was just then beginning against the influenza which has spread from coast to coast over this land. And, glory be! the names were furnished. And, glory be! some more—right here in Nashville ten or more good men from other cities have been at work helping the United States Government get out powder, with which to hump the Hun back into Hunland, by fighting the "flu," night and day. Some of them are as good men as the profession can claim in all the land; they left their work and left their homes and went into the hospitals, permanent and improvised, and into the highways and byways all over Nashville and Davidson County, because they were in the V. M. S. Corps and because through this body the Surgeon-General was able to secure their services promptly—and further because they wanted to serve wherever they could best serve the interests of this good old U. S. A. And please remember that the request for these men came from the Surgeon-General of the United States Public Health Service to the Volunteer Medical Service Corps; they were not perpetrated on Blue in order that Franklin Martin might win honor, notoriety or whatever it is that he is accused of wanting to win for himself; neither did Franklin Martin push Rupert Blue out of the way and assume control of the United States Public Health Service. He furnished the men who had signified their willingness to serve where they were needed, and he furnished them simply because he happened to be in charge of the affairs of the V. M. S. C.

And, may we ask, have Dr. Jones and Dr. Pusey not seen the letter from one Woodrow Wilson, Commander-in-Chief of the U. S. A., endorsing the V. M. S. C.? Is the President in a conspiracy with Martin?

One more thing—or two—and we are done with this matter for this time. Up to the evening of October 2 a large number of Tennessee doctors and thousands from other states had sent in to Washington their signed applications for membership in the Volunteer Medical Service Corps. We think there were far more of those who are left at home for any reason who signed than of those who are left who did not sign. We will soon know for a fact, we hope, and will publish the fact as ascertained.

Now, as to the editorial which Dr. Jones criticises us for having written. This was written upon the assumption, which we think was justified from the facts above stated, as to the personnel of the governing body of the Volunteer Medical Service Corps and as to the Medical Section, Council of National Defense, that the V. M. S. C. was "authorized." We accepted the command—request, if you please—as coming from the Government of the United States, at war with Germany. And we still think that the man who is not willing to put himself on record as willing to serve wherever his Government may think he can best serve is not much of a citizen. In saying this, however, we do not mean to reflect in any way upon any man who does not believe that the Volunteer Medical Service Corps is an authorized and acceptable arm of the Government for carrying out the purposes which it is supposed to serve.

Morale hastens victory. Give to United War Work Campaign.

BIRTH CERTIFICATES.

Once again we beg to urge upon Tennessee physicians the great importance of birth registration, and appeal to them to file promptly with local registrars certificates of birth in every case. To do this thing is the patriotic duty of every doctor, aside from the fact that the law requires that it be done. In a hundred ways the great new importance of birth registration has been brought out by war requirements. Don't let any child suffer in future life because of your neglect to file a legal record of birth.

MOBILIZATION OF WOMEN PHYSICIANS FOR ANESTHETIC SERVICE.

Every effort is being made to keep war surgery at top-notch efficiency and to provide every wounded American doughboy with lifesaving anesthesia, both at the front and in the hospitals in Blighty.

In this connection the following telegram is self-explanatory:

(Copy.)

Washington, D. C., Sept. 18.

Dr. F. H. McMeehan,
Avon Lake, Ohio.

Proceed at once to secure qualified women physician anesthetists, under 45 years of age, of mental poise, as well as young women graduates who are competent for such service.

(Signed)

Dr. Franklin Martin,
Per Dr. Emma Wheat Gillmore,
Chairman Woman Physicians' Committee,
Council Nat'l. Defense, Medical Section.

Those women physicians who are qualified for anesthetic service and who are competent to be intensively trained are requested at once to get in touch with

Dr. F. H. McMeehan, *Sec'y.,*
Interstate Anesthetists,
American Anesthetists.

TENNESSEE PHYSICIANS IN SERVICE.

According to the latest available figures, which, while not complete to date, are the best we can secure, there have been approximately 700 Tennessee physicians recommended and commissioned in the medical services of the Army and Navy. Considerably more than half of these have come from the four largest cities of the State—Nashville, Memphis, Chattanooga and Knoxville. Taking the estimates of the American Medical

Association Directory as the basis for computation, Nashville has sent more than 33 per cent of her doctors to war; Shelby County comes next, with slightly less than 31 per cent, nearly all from the city of Memphis, of course; Knox County has sent 27.7 per cent of her physicians; Hamilton County has sent 21 per cent.

Carter, Davidson, Fayette, Hamilton, Knox, Maury, Roane, Shelby, Washington and Weakley Counties have all furnished more than the minimum quota. Carter has sent one more than her quota; Davidson, 50 over; Fayette, 2 over; Hamilton, 2 over; Knox, 14 over; Maury, 1 over; Roane, 4 over; Shelby, 51 over; Washington, 3 over; Weakley, 2 over. There are, therefore, only ten counties of the ninety-six in the State which have furnished their full quota of doctors for military service.

Clay, Cumberland, Decatur, Fentress, Hancock, Houston, Humphreys, Jackson, James, Lake, Lewis, Macon, Morgan, Overton, Pickett, Sequatchie, Stewart and Van Buren Counties are not represented in the medical service, while fourteen other counties have only one representative each.

The State as a whole has failed to furnish its minimum quota, due to the failure of eighty-six of ninety-six counties to offer up the required number.

Since the figures above used were compiled a few more commissions have been issued.

Thirteen commissions have been issued to men who have not seen fit to accept them.

Sixty-six men within the "eligible" age have applied for commissions and have been rejected, nearly all of them because of physical shortcomings. A large number of men over the age limit have also applied, but, of course, were ineligible.

Twenty have been commissioned and have been discharged or have resigned. Nearly all of these were discharged because of physical defects which existed prior to their entrance into service.

Give to maintain the morale that is winning the war. United War Work Campaign, November 11-18, $170,500,000.

INFLUENZA.

The country-wide sweep of influenza has desolated thousands of homes, has upset business, has interfered with all educational and social activities, has retarded the training and movements of our soldiers, has disarranged and stagnated traffic, and has well nigh overwhelmed our nation in its mighty efforts to further the cause of liberty throughout the world. Our own good State has felt the heavy hand of disease in a way that has tested her strength and the spirit of her people as they have, perhaps, never been tested before.

It is probably well that this test has been made, and at the time that it has. Surely our people will learn the lessons brought to them and, surely, they will bend themselves to the solution of many problems having to do with health conservation as it may be effected through organized public effort. Generally speaking, the public has acquitted itself with honor in the great emergency through which we have passed. After the first wave of panic had broken against a somewhat slowly formed determination to resist panic, the people cheerfully submitted to the restrictions that were placed upon their comings and goings by public officials, and, for the most part, yielded readily to the advice of their physicians in all matters pertaining to treatment and personal hygiene. Of course, there were the ignorant, who knew nothing and would not learn, and there were the superwise, who knew all and were, therefore, worse than the most ignorant; these two classes furnished a large part of the total fatalities.

The public now should be able to correctly appraise the sensationalist. Everywhere his stories and prophecies have finally fizzled, though there can be no doubt but that early in the outbreak they were productive of great harm. It is strange, but true, that some of the very worst of these wild talkers who told tales of hundreds of deaths where less than tens had actually occurred, were doctors. These, repeated and retold to the patients whom they visited, and to whomsoever else would listen, the most terribly exaggerated stories of death and destruction, desolation and despair, and, of course, created panic and distrust wherever they went. As a result of their pernicious tongue-wagging, the systematic efforts that were being made by other physicians and by public health officers to put into effect measures for control were sadly interfered with.

The sudden development of a great emergency brought into full view the woeful unpreparedness of our State and local health departments for coping successfully with a widespread outbreak of any communicable disease. All of these did the best they could with the facilities at their command, and it may be reasonably said that they did well. The outstanding fact, as we see it, which has been developed by the epidemic insofar as public health departments are concerned, is this: The state and local departments should be so organized and so provided with funds that they may be readily able to assume active and intelligent leadership and direct the organization and control of all emergency measures which may become necessary for combatting any communicable disease which may take on or threaten to take on epidemic proportions.

The medical profession as a whole deserves the whole-hearted commendation of all our people for their work during the influenza epidemic. Day and night the doctors went, many of them to their own undoing, and right here is a practical lesson for them. The man who tries to work twenty-two hours in twenty-four one day after another is absolutely wrong in his conception of his duty. After the second day of such work he is unfit. His bodily resistance is lowered to the point where he is almost surely a coming victim of the disease which he endeavors to combat; his mental processes are so slowed that he is utterly unable to recognize and interpret symptoms and to properly direct the treatment of the patients he wants to help. Better it would be to take a reasonable amount of rest and keep fit.

A crying evil that needs correction and needs it badly is the tendency upon the part of the people to demand overtreatment and the tendency upon the part of many physicians to pander to this demand. It has been apparent time and time again in this epidemic.

It would be a fine thing if the medical profession of each State could be so organized, mobilized or whatever else it may be well to call the process of making fully available the medical resources of the State, that every community should be enabled to receive the best possible medical service in epidemics. There can be no sort of doubt but that many communities in Tennessee have had far more than their due share of medical care, while others have suffered severely for want of physicians. Why not have a permanent volunteer medical service corps?

Another outstanding fact that has been brought more brilliantly into the light by this influenza outbreak in our State is that our hospital facilities are totally inadequate. We do not mean to say that influenza cases should be hospitalized wherever hospitals can be had; on the other hand, we are inclined to believe that no influenza should be sent into hospitals unless the proper care cannot be given in homes.

While it looks at this writing that the peak has been passed, we would urge upon our readers that the end of this influenza has not yet come. Even though the incidence rate rapidly decreases and the epidemic is over, there will be many cases of the disease throughout the coming winter and on up into the months of spring. The sequellae will demand the long-continued effort of our profession; this will be a work almost equal in importance to that which is to be done in the reconstruction of disabled soldiers.

A great increase in the incidence of respiratory diseaeses, especially tuberculosis, may be looked for this winter and next spring. The most important part of the handling of tuberculosis is an early diagnosis. *Examine your patients carefully, not casually. Keep in mind as never before the possibility of tuberculosis.*

One more thing, and this rambling discussion, very hurriedly prepared, because we are still mighty busy fighting the "flu," will be ended. Dont' diagnose everything you see "influenza." Again, *examine your patient carefully* and find out what the matter is.

Give for the morale of our troops—give to the United War Work Campaign, November 11-18: $170,500,000.

A LIAR.

Letters have come to the State Board ot Health from Clay, Putnam and Warren Counties telling of the operations of one "Dr. McLain" or "McLaren," who represents himself to be an employee of the State Board of Health sent out to relieve the sufferings of the victims of cancer. He is a large liar. The State Board of Health has no such man in its employ, of course. If you hear of this fellow in your community, call the sheriff and write the State Board of Health.

SOUTHERN MEDICAL POSTPONED.

To the Members and Friends of the Southern Medical Association:

At this late hour it is with deep regret that we find it necessary to postpone for a year the twelfth annual meeting of the Southern Medical Association, which was to have been held at Asheville, N. C., November 11-14. The reason for this is the epidemic of influenza, which has reached every nook and corner of our territory, and is now engaging the attention of the profession to such a degree as to render it impossible for them to leave home for some time to come.

To the untiring efforts of the Asheville Committees on Arrangements, to the officers of the Section on Medicine, Section on Pediatrics, Section on Public Health, Section on Surgery, the Southern States Association of Railway Surgeoens, Section on Eye, Ear, Nose and Throat, and the Conference on Medical Education, who under the greatetst difficulties have gotten up what is probably the best program ever presented to the Association; to the officers and members of the American Association for the Study and Prevention of Infant Mortality, to the National Malaria Committee, the American Society of Tropical Medicine and the Southern Gastro-Enterological Association, who were to meet conjointly with us; and to the various distinguished guests who had consented to attend our convention, we wish to express our especial disappointment at this unexpected and unfortunate turn of events.

The various papers that were to have been read will be published during the coming year in the Journal, so that there will be as little break as possible in the record of the scientific advancement of Southern medicine and surgery.

Next year the Association confidently expects to have the greatest meeting in its history, and trusts you will make your plans to be with us then. Respectfully,

Lewellys F. Barker, M.D., *President*,
Baltimore, Md.

H. H. Martin, M.D., *Ch'm'n of Council*,
Savannah, Ga.

C. P. Loranz, *Business Manager*,
Birmingham, Ala.

October 15, 1918.

APPLIED FOR MEMBERSHIP V. M. S. C.

Up to October 2, 1918, at which time all Tennessee applications had not been received, 1,263 Tennessee physicians had forwarded their applications for membership in the Volunteer Medical Service Corps to Washington.

Of these, 153 came from Shelby County. In this county there are said to have been 470 doctors, 145 of whom are now in the Medical Corps or have had commissions offered them. Thus we conclude that there are 172 doctors in Shelby County who had not applied for membership in the V. M. S. C. up to October 2, 1918. Of the 470 doctors credited to Shelby County, 108 are outside the city of Memphis.

From Davidson County 120 applications had been received at Washington up to October 2. Davidson County is credited with 380 doctors, only 18 of whom live outside the city of Nashville. Commissions in the Medical Corps have been issued to 126 Davidson County physicians, and there are, then, 134 doctors in this county who had not applied for the V. M. S. C. up to October 2, or whose applications had not reached Washington on that date.

Knox County doctors to the number of 57 had sent in applications to V. M. S. C. headquarters on the date named. This county is credited with 191 physicians, 53 of whom have been commissioned in the Medical Corps. There were 81 of Knox County's doctors who had not sent in V. M. S. C. applications up to October 2. All of Knox County's doctors live in Knoxville except 36.

Hamilton County is credited with 195 physicians, 152 of whom live in Chattanooga. To Hamilton County doctors 41 commissions have been issued, and 99 of them had sent applications for membership in the V. M. S. C. up to October 2. There were, then, on that date 53 Hamilton County physicians left who had not applied for membership.

The above detailed information concerning applications from the largest counties is given because there is a disposition in some quarters to have it appear that nobody much has applied for membership in the Volunteer Medical Service Corps, which is just what its name indicates—a volunteer organization.

Turning to other counties—just ordinary counties, in which nobody cares a baubee whether there's a "scrap on" between Dr. Somebody and Dr. Somebody Else in Chicago, we find Anderson County, with 9 applications; Campbell, with 13; Carroll, with 22; Cheatham, with 5; Chester, with 6; Claiborne, with 11; Clay, with 5; Coffee, with 9; Crockett, with 8; Cumberland, with 5; Dickson, with 23; Dyer, with 31; Gibson, with 17; Giles, with 16; Jefferson, with 21; Marion, with 12; Roane, with 13; Rutherford, with 39; and so on, the figures here given representing only applications received at Washington up to October 2. We do not know how many Tennessee applications have been received in Washington since that date.

MR. WILSON APPROVES.

For the benefit of some of our readers who seem not to have seen or heard of the letter, we are presenting here the letter of the President of the United States in which he gives his approval of the organization of the Volunteer Medical Service Corps and in which, also, he pays graceful tribute to the medical profession of the United States for the service rendered by the profession in the war. Mr. Wilson takes note of the fact that some men don't like some other men, but he writes a pretty good letter, at that.

"The White House.
"Washington, Aug. 12, 1918.

Mr. dear Dr. Martin: I have received your letter of August 5, laying before me the matured plan for the reorganized Volunteer Medical Service Corps, of which you ask my approval. This work was undertaken by you under the authority of the Council of National Defense; it has had great success in enrolling members of the medical profession throughout the country into a volunteer corps available to supply the needs of the Army, Navy and Public Health Service.

In co-operation with the general medical board of the Council of National Defense, the strong governing board of the reorganized corps will be able to be of increasing service, and through it the finely trained medical profession of the United States is not only made ready for service in connection with the activities already mentioned, but the important work of the Provost General's office and Red Cross will be aided and the problems of the health of the civilian communities of the United States assured consideration. I am very happy to give my approval to the plans you have submitted, both because of the usefulness of the Volunteer Medical Service Corps and also because it gives me an opportunity to express to you and through you to the medical profession my deep appreciation of the splendid service which the whole profession has rendered to the Nation with great enthusiasm from the beginning of the present emergency.

"The health of the Army and the Navy, the health of the country at large, is due to the co-operation which the public authorities have had from the medical profession; the spirit of sacrifice and service has been everywhere present, and the record of the mobilization of the many forces of this great republic will contain no case of readier response or better service than that which the physicians have rendered.

"Cordially and faithfully yours,
"WOODROW WILSON."

"Dr. Franklin Martin, the Advisory Commission, Council of National Defense."

You have loaned your money to supply our army's physical needs—now give to maintain its morale. United War Work Campaign, November 11-18: $170,500,000.

MISCELLANEOUS

DEATHS.

The Journal is called upon to record the deaths of four well-known Tennessee physicians, all of whom have died since our last issue:

Dr. Thomas Weaver, Nashville, died at St. Thomas Hospital from pneumonia, which followed upon an attack of influenza.

Dr. F. M. Woodward, Springfield, died at his home early in October, his death having been due to cardiac disease.

Dr. Charles Huff Davis, Knoxville, died in that city on October 20, a victim of influenza pneumonia.

Dr. H. E. Larkins, Charlotte, died at his home on October 20, his death having also been due to influenza pneumonia. His wife and one child also succumbed to the same disease a day or two after Dr. Larkins' death.

Dr. L. F. McKay, Martin, died very suddenly on October 26, while going about his professional duties.

REGULATIONS.

Promulgated by the Secretary of the Treasury, under which State Boards or State Departments of Health receive the allotment of funds provided in Section 6, Chapter XV, of the Act approved July 9, entitled "An Act making appropriations for the support of the army for the fiscal year ending June 30, 1919."

The act provides that $1,000,000 shall be distributed to the States for the use of their respective boards or departments of health in the prevention, control, and treatment of venereal diseases, this sum to be allotted to each State, in accordance with rules and regulations prescribed by the Secretary of the Treasry, in the proportion which its population bears to the population of the continental United States, exclusive of Alaska and the Canal Zone, according to the last preceding United States census.

State boards or departments of health receiving their respective allotments shall agree to the following co-operative measures under which their appropriation shall be expended:

1. Put into operation through a legislative enactment or a State board of health regulation having the effect of law, regulations in conformity with the suggestions approved by the Surgeons-General of the Army, Navy and United States Public Health Service, for the prevention of venereal diseases. The minimum requirements of these rules are:

(*a*) Venereal diseases must be reported to the local health authorities in accordance with State regulations approved by the United States Public Health Service.

(*b*) Penalty to be imposed upon physicians or others required to report venereal infections for failure to do so.

(*c*) Cases to be investigated, so far as practicable, to discover and control sources of infection.

(*d*) The spread of venereal diseases should be declared unlawful.

(*e*) Provision to be made for control of infected persons that do not co-operate in protecting others from infection.

(*f*) The travel of venereally infected persons within the State to be controlled by State boards of health by definite regulations that will conform in general to the interstate regulations to be established.

(*g*) Patients to be given a printed circular of instructions informing them of the necessity of measures to prevent the spread of infection and of the importance of continuing treatment.

2. An officer of the Public Health Service shall be assigned to each State receiving allotments for the general purpose of co-operating with the State health officer in supervising the venereal-control work in the State. This officer to be selected by the State health authorities and to be approved and recommended for appointment by the Surgeon-General of the Public Health Service. The salary of this officer will be paid by the State out of the funds made available from the allotment, except a nominal sum of $10 per month, which will be paid by the United States Public Health Service. In those States where a bureau of venereal diseases has already been established, with a full-time medical officer in charge, the present incumbent may be recommended for appointment by the State health officer, and, with the approval of the Surgeon-

General, United States Public Health Service, he will be appointed as an officer of the Public Health Service. The general plan of work for the State bureau of venereal diseases will be:

(*a*) Securing reports of venereal infections from physicians and others required to report, in accordance with State laws.

(*b*) Suppressive measures, including the isolation and treatment in detention hospitals, of infected persons who are unable or unwilling to take measures to prevent themselves becoming a menace to others, the establishment of free clinics for the treatment of venereal diseases, and the elimination of conditions favorable to the spread of venereal infections.

(*c*) Extension of facilities for early diagnosis and treatment through laboratory facilities for exact diagnosis and scientific determination of condition before release as noninfectious, in accordance with the standardized procedure that will be prescribed by the United States Public Health Service.

(*d*) Educational measures to include informing the general public, as well as infected individuals, in regard to the nature and manner of spread of venereal diseases and the measures that should be taken to combat them.

(*e*) Co-operation with local civil authorities in their efforts to suppress public and clandestine prostitution. The clinics referred to under (*b*) will form centers from which the other measures may be conducted by discovering the presence of infections, the securing of data for enforcing the regulations for reporting these diseases, and the institution of educational measures appropriate to particular communities. The immediate reduction in venereal-disease foci resulting from clinic treatment will result in a marked decrease in the prevalence of such diseases in both the military and civil population.

(*f*) Accurate detailed records must be kept of all the activities of the venereal-disease work. These will include careful records of each case treated, amount of arsphenamine used, final results, and disposition made of patients. Copies of these records must be forwarded to the Surgeon-General, United States Public Health Service, as a report at such intervals as they may be requested, and in accordance with instructions regarding the form of report.

3. Local funds that may be available, or that may become available from legislative appropriations or any other source for venereal-disease control, shall be used by the State or city health authorities having jurisdiction for the extension of the word, and such local funds must not be conserved through the expenditure of the funds thata are allotted by the Congress through the United States Public Health Service.

4. In extension of the educational measures the State's health authorities and its bureau of venereal diseases shall exert their efforts and influence for the organization of a State venereal-disease committee that will be unofficial in character, but a valuable co-operative agency for furthering the comprehensive plan for nation-wide venereal-disease control.

5. The State health authorities shall take such measures as may be found practicable and decided upon in conference between the Public Health Service and State board of health representatives for the purpose of securing such additional legislation as may be required for the development of control of the spread of venereal infections. Action shall be taken to limit or suppress the activities of advertising "specialists" and quacks by prosecuting them under State laws, or such other measures as may be applicable and effective.

6. In expending the sum allotted a State, the rules and regulations to be promulgated by the interdepartmental social hygiene board for the expenditure of the $1,000,000 civilian quarantine and isolation fund under control of the Secretary of War and Secretary of the Navy shall be given consideration by Public Health Service and State board of health representatives, so that the military necessities of each particular State may receive the consideration due its relative importance, and so that funds from the two sources may be correlated.

7. The State allotment shall be expended along general standard lines for all States and in accordance with an accounting system, to be forwarded by the interdepartmental social hygiene board, approximately as follows:

(*a*) For treatment of infected persons in hospitals, clinics, and other institutions, including arsphenamine and other drugs, 50 per cent of the allotment.

(*b*) In carrying out educational measures, 20 per cent.

(*c*) In carrying out repressive measures, 20 per cent.

(*d*) In general administration and other activities of venereal disease control work, 10 per cent.

(This distribution is provisional and subject to modification after conference and agreement between each State and the United States Public Health Service to best meet the needs of the particular State.)

8. In carrying out the general Government program the administrative organization of the United States Public Health Service will be available at all times to State organizations in co-operative work, and assistance will be given to States whenever possible through the detail of employees, the securing of arsphenamine, providing literature for the educational measures and in such other ways as may be found practicable as the work develops.

W. G. McAdoo,
Secretary of the Treasury.

Washington, D. C., Sept. 4, 1918.

SERVICE THAT WINS THE SOLDIER HEART.

"One of the discoveries men are making over here," Fred Lockley, of the Y. M. C. A., and of Portland, Ore., writes from London, "is that more pleasure can be had out of giving than getting. Many a man who has spent money freely in the old days to buy pleasure is finding that he gets more pleasure over here by the spending of one's self in the service of others.

"A few months ago I went out with a fellow Y. M. C. A. secretary to hunt up out-of-the-way detachments of troops. A stable guard here, a machine gun company there, a platoon somewhere else. We carried our goods in an automobile. We had plenty of writing paper and envelopes for free disteribution, and chocolate, cookies, chewing tobacco and smoking tobacco, cigarettes, razor blades, tooth paste and things of that kind for sale. American war service workers were busy everywhere. We found Salvation Army lassies making doughnuts for the boys and K. of C. secretaries giving help. Books furnished by the American Library Association were to be seen on all sides.

"Hearing firing at a distance, we drove down the road and found a score or so of men at machine gun practice. The officer gave the men half an hour recess to buy goods.

"At another place we came in sight of a lieutenant drilling a platoon. I said to the lieutenant: 'How soon before you dismiss the company? We have Y. M. C. A. goods for sale.'

"He said: 'Right now. Sergeant, dismiss the company!'

"And ten seconds later the company was in line waiting to buy goods from our traveling 'Y.' Grateful is no name for it. The men can't do enough to show their gratitude."

VENEREAL DISEASE IN U. S. ARMY.

A fairly complete account of what is being done in the army against venereal disease is given by Dr. W. A. Pusey, Chicago (Journal A. M. A., September 28, 1918). If we could handle these disorders as we can other infectious diseases, the problem, he says, would be a relatively simple one. There are social, personal and moral factors involved which complicate the whole question as in no other class of diseases. The army has taken account in its program of all phases, and the medical profession is rapidly learning the needs and methods involved. The first two groups of methods for controlling venereal diseases are strictly social, and the most original part of the policy in the American army is here included. Two sorts of activities are involved: (1) The repression of prostitution and the liquor traffic, and (2) the provision of proper social surroundings and of opportunities for recreation and diversion. It is necessary in the program of attack to include the liquor question. This calls for co-operation between federal and local authorities. The making of zones around cantonments as legally established at present puts the federal authorities in power, and Pusey says that the American army is at present practically a body of total abstainers. There has never been such a systematic attack on venereal disease before. The second group of measures to diminish temptation are embodied in the provision of proper social surroundings and recreation, and the authorities have availed themselves here of the invaluable experience of various organizations, such as the Y. M. C. A., etc. The response of the public has been remarkable. The same civil agencies that have been working against prostitution have been active in the campaign of education of the public as to the danger of venereal diseases, and there has been a notable increase in the energy of the public care as regards these disorders. There is always a possible danger of unreasonable enthusiasts, and this must be avoided. As regards the medical program, the prophylactic methods, well known to physicians, are uniform in the matter of regulation, and other methods, such as the loss of pay during disability from venereal disease and the fortnightly physical inspections, are important. Provisions are made in the base hospitals for the hospitalization of these cases, laboratory facilities are provided in most cantonments, and schools have been established for the intensive training of the less experienced men in this work. The quality of the treatment the patients are receiving in the base hospitals is, on the whole, excellent. The regimental surgeon, of course, has to be a general practitioner, and he must obtain his experience sometimes with some difficulty and cannot have the necessary equipment. It cannot be expected of him that he be an expert, and it follows that these diseases should be taken as far as possible out of the hands of the general medical officers and put into the hospitals where they can be properly treated. The situation in the United States army as to venereal disease has been excellent for several years, but, of course, with the great increase of troops from all classes of the population a marked increase is liable to follow and has been looked for. Such always follows the mobilization of new troops, and much has been said as to the enormous ratio existing. This does not give fair indication of the relative prevalence since, when new recruits are received, all cases, old and new, are recorded, but later only new cases get into the record. Pusey concludes with figures showing the bettered situation following the present policies.

BOOKS FOR SOLDIERS SUPPLIED BY A. L. A.

Something like 13,500 pieces of stationery are distributed daily among 4,000 enlisted men by Uriah B. Brubaker of Iola, Kans., as ilbrarian at the Y. M. C. A. writing tent, Woodley Rest Camp, of the American Expeditionary Forces in southern England. The number of troops at this camp varies from 3,000 to 9,000.

This single detail indicates why it is necessary for the Y. M. C. A., Y. W. C. A., National Catholic War Council and K. of C., War Camp Community Service, Jewish Welfare Board and Salvation Army have to furnish 125,000,000 sheets a month for soldiers' letters.

Hundreds of books are taken out in this small camp, books furnished by the American Library Association and handled by the Y. M. C. A. Most of the demands are for a good clas sof fiction. Thirty American newspapers are received there daily. One hundred and fifty magazines are in use daily, and 400 pieces of athletic equipment furnished by the "Y" are put to good use.

NEUROSYPHILIS.

The diagnosis and economic importance of neurosyphilis is the subject of an article by J. A. Fordyce, New York (Journal A. M. A., September 28, 1918). Syphilitic involvement of the nervous system is, he says, a much more frequent sequence of the infection than has been shown by statistics largely compiled before the introductio of modern diagnostic methods. These figures, of course, are based mainly on the fully developed clinical picture of neurosyphilis and did not take into account the vistims that have been revealed by laboratory findings, the clinical pictures of which are vague and otherwise difficult to interpdet. As a result of several years of observation, Fordyce believes that once the spinal fluid is infected, as shown by strong reactions, its cure seldom occurs without persistent and proper treatment vigorously carried out. He would, therefore, estimate double the 10 per cent of these cases shown by the old statistics and consider his estimate moderate. We can, Fordyce says, by employing the newer methods of diagnosis and treatment, reduce the number of early potential neurosyphilitics. He quotes Pollock's figures of general paresis and cerebral syphilis in the New York state hospitals and asks how these tragedies to the individual and the expenses and economic loss to the state can be prevented. The methods mentioned are public education as to the results of the disease and moral control as far as possible, and better conceptions of the conditions by the general practitioner. We now possess accurate laboratory methods for diagnosis, and drugs which, used at the right time and in the proper manner, are curative. By study of the pathologic changes the value of preventive treatment can be appreciated. The author thinks that the teaching in our institutions is no talways up to the mark, and it is at present difficult to eradicate medieval ideas from the minds of hospital authorities in some cases. Considering neurosyphilis as a comprehensive term, it includes all types of the disease which may involve one or all of the central nervous system. It may involve the blood vessels alone and give rise to a complex of symptoms due to the consequent circulatory disturbance. In uncomplicated vascular syphilis the spinal fluid may be entirely negative or show a marked globulin reaction and either a positive or negative Wassermann reaction. If the blood Wassermann is negative a positive reaction may at times be activated by treatment. The results of serologic examinations in vascular syphilis are, therefore, frequently misleading, and Fordyce gives histories of illustrative cases. An examination of the spinal fluid gives an accurate index to the intensity of the process. There may be a sharp limitation of the infection to one nerve or its nucleus with pupillary changes or ocular motor paralysis with little or no change in the fluid. These cases may terminate in a spontaneous cure with local damage and no progressive tendency. The earlier symptoms are often obscure, and Fordyce has not met with as many of them as of the later cases. The interpretation of spinal fuid findings is briefly referred to and the symptomatology is reviewed. In a former article he had referred to the existence of conjugal and family groups of neurosyphilitis, and he reports brief notes of a large number of cases of neurosyphilis in closely related persons. The possibility of different strains of the spirochete, somewhat similar to those we know of in the streptococci and pneumococci, is suggested, and the suggestion is supported by the facts of racial immunity that have been observed. The importance of neurosyphilis in this war is also pointed out. Medical officers should be instructed in all the recent methods of spinal fluid examination and learn to interpret their significance. In spite of the more general recognition of the value of laboratory diagnosis, Fordyce thinks that standardized methods are not as infrequently employed as they should be. In conclusion, he mentions the questions that so deeply involve the patient's future health and the welfare of the community and are yet not completely solved, such as the value of the present criteria of cure, the possibility of insuring the patient against recurrence, and of freedom of the nervous system as shown by the reaction as an assurance against later infection by an uncured focus. All institutions and physicias should carefully keep their data as to serologic and clinical observations for comparison with those to be obtained later. Standardized methods of diagnosis and treatment should be used and recorded and the records preserved in the form of a meical register like the one used in the medical department of the army.

CATHOLIC BOYS JOIN WAR WORK CAMPAIGN.

To put behind every Catholic fighter in France the support of one boy or girl in every parish throughout the United States is the plan of the National Catholic War Council for backing the Victory Boys' and Victory Girls' "Earn and Give" Division of the United War Work Campaign to raise $170,500,000 "for the boys over there" during the week of November 11-18.

Through diocesan, county and parish organizations, the rallying of one youngster for every man who has gone to war in every community is already under way . By their own earnings, and not by contributions, it is expected that these sturdy little sponsors for the boys abroad will each raise at least five dollars for the joint welfare work of the Y. M. C. A., Y. W. C. A., National Catholic War Council, including the Knights of Columbus, War Camp Community Service, Jewish Welfare Board, American Library Association and Salvation Army.

Boys and girls in every Catholic parish throughout the United States are already being picked to represent each fighting man who has left their church for the front. In every home that flies a service flag little brothers and sisters, sons and daughters, are eagerly volunteering to look out for the share of their family fighter in the huge joint welfare campaign for all the boys abroad.

SYPHILIS AS A PUBLIC HEALTH PROBLEM.

H. G. Irvine, Minneapolis (Journal, A. M. A., Sept. 28, 1918), calls attention to the increased need, with our greater knowledge of the causes of venereal diseases, of appreciation of the problem. The public is become awakened to this fact with the occurrence of the present war and the mobilizatiin of the draft army. California was, he thinks, the first state to recognize the importance and provide for the emergency, and Minnesota followed one year later. The program of a state attack on this plague involves, first, attention to the carrier, for whom enforced treatment and quarantine are necessary. The figures are quoted for San Francisco to show the importance of the matter and the methods adopted. Investigations have shown that not more than from 30 to 50 per cent of the infected patients receive adequate medical service at the hands of private practitioners. This is partly due to the fact that many physicians are not sufficiently trained for this kind of practice, and partly to the fact that many patients are too poor to pay the probable fees, and therefore go to dispensaries or drug stores. Unless all cases are treated until cured not much is accomplished in the way of protection of the public. Pressure should be brought to bear on hospitals to receive these patients and provide adequate treatment, and Irvine thinks the state should furnish free laboratory service for diagnosis and the cost of treatment of these cases. Adequate provision must be made for control of private as well as public or indigent patients, and all cases should be reported. This is imperative, though publicity need not be enforced. Counter prescribing by druggists or the se of special drugs or nostrums by the patients themselves and advertising of quacks must be prevented. The systematic education of both laity and physicians as to the danger of these diseases and their prevalence and to the needs of adequate treatment is the most important of any single method of attack. Another part of the educational work is the education of teachers, and courses should be arranged for in all normal schools and state universities. Prophylaxis, Irvine thinks, may be a part of the instruction to advantage. The methods in use have had excellent effect in the army and there is need for the federal government to come to the state's aid in the way of finances, just as England has done, and legislation to this effect is now before Congress. Emphasis should be placed on the educational work, especially in the medical schools, where due attention has not been given to the subject in the past, but the program must take cognizance of every factor contributing to the spread of the disorders, and we must remember, as General Gorgas has pointed out, that their abilition cannot be entirely accomplished until we can do away entirely with sexual immorality.

DYSENTERY.

G. B. Lawson, Roanoke, Va. (Journal, A. M. A., Sept. 28, 1918), recommends the rectal use of ipecac in amebic dysentery. His method of procedure is to put 60 or even 120 grains of powdered ipecac into about 24 ounces of water; this is kept hot for an hour, but not allowed to boil. After washing out the bowel with warm water, this whole preparation, without filtering, is given slowly by rectum, to be retained as long as possible. If there is much pain and tenesms, only a part of this can be given. In a few cases there was some discomfort and the treatment had to be slowed odwn. Formerly, he says, they used this method of treatment and at the same time gave salol-coated ipecac pills. Later on emetin (alkaloid) came into use and was used hypodermically with the ipecac by rectum. In two cases reported, the rectal treatment alone was used. Lawson believes that the hypodermic emetin treatment can be greatly aided by also giving ipecac by rectum. It certainly seems preferable to apply a treatment locally, rather than have it traverse the whole alimentary canal before reaching the seat of the disease, or than to give it hypodermically when it will diffuse through all the tissues of the body. It has also the advantage that it can be sed by the patient when away from his physician.

FIFTY-EIGHT JEWISH WORKERS GOING "OVER THERE."

The whole-souled co-operation between the seven great organizations working for the happiness and welfare of our soldiers and sailors was recently illustrated at the graduation exercises of the tenth class of the Jewish Welfare Board's Training School in New York. Col. William S. Barker, who went to France representing the Salvation Army with the first contingent of our troops, and has been "over there" fifteen months, was the principal speaker and wished the fifty-eight workers of the class God-speed, while Louis Marshall, the prominent Jewish attorney and philanthropist of New York, lauded the work of the Salvation Army among the boys at the front.

"What our fighting boys need is inspiration and heart and character in those who are there to help them," declared Col. Barker. "You will represent in the camps and overseas the ideals and standards of the Jewish faith, and it is up to you above all things to be consistent in your religious practices. Practice what you preach. That, I am sure, has been the secret of our own success. If you live up to the principles of your faith and give what you have to give from a heart big with love, the boys will respect you, whether they be Protestant, Catholic or Jew."

The newly graduated field workers will make a total of 260 men doing field work in our camps and naval training stations under the auspices of the Jewish Welfare Board. The Board has about fifty "huts" in the various camps and maintains centers in all large cities where soldiers and sailors of all faiths are welcomed. A headquarters has recently been established in Paris, and 100 men are being recruited here for overseas work. There are now nearly 125,000 Jews serving in the army and navy.

MERCURIC CHLORID POISONING.

H. B. Weiss, Cincinnati (Journal A. M. A., Sept. 28, 1918), lays down the principles of treatment for mercuric chlorid poisoning, in the light of the later laboratory data. The anatomic pathology has been established. Every organ of the body is affected, the liver and the kidneys bearing the brunt of the injuries. From a cloudy swelling the changes continue to fatty degeneration and necrosis. From the experiments on animals, Weiss has deduced certain therapeutic principles. As the mercury is quickly taken up by the blood, all the tissues are quickly bathed with toxic materials. Weiss has sed the alkaline treatment, to counteract the acid intoxication produced, for the last three years, and his records show a lower mortality than is usual from this cause. His experience included fifty-four cases, with three deaths. Of the three patients that died two received the treatment only after unavoidable delay, and one had a pre-existing nephritis and cirrhosis. Essentially the treatment consists in early washing out of the mercury salt from the stomach and intestine, and the continued introduction of enough alkali to overcome the acid intoxication. He says: "I usually wash out the stomach with a mixture of one quart of milk and the whites of three eggs, following this by a satrated solution of sodium bicarbonate until the stomach washings return clear. Finally, before the stomach tube is removed, from 3 to 4 ounces of crystallized magnesium sulphate dissolved in from 6 to 8 ounces of water are allowed to remain in the stomach. A soapsuds enema is then given. Usually the patient vomits shortly after taking the mercury, thereby aiding in the elimination of the poison. The next step is to introduce alkali, and we give the alkali by mouth, rectum and intravenously. As soon as possible after washing the stomach the patient is given Fischer's solution intravenously. Fischer's solution consists of crystallized sodium carbonate, 10 gm. (Na_2CO_3, IOH_2O) (or 4.2 gm. of the ordinary "dry" salt); sodium chlorid, 15 gm., and distilled water, 1,000 c.c. Depending on the state of the circulatory system, from 1,000 to 2,000 c.c. of the solution are given intravenously as a first dose. We continue the alkaline medication by giving 8 ounces of imperial drink every two hours. This drink consists of: Potassium bitartrate (cream of tartar), 4 g.m. (1 teaspoonful); sodium citrate, 2 gm. (one-half teaspoonful); sugar, 2 gm. (one-half teaspoonful), and water, 240 c.c. (8 ounces). This drink is flavored with lemon or orange juice. The patient is allowed large quantities of it." The analysis of the urine was used as a guide to the amont of alkali and salt needed and as to the severity of the acid intoxication. Except in suppression cases, the urine is freely voided according to the amount of fluid taken. It should become alkaline to methyl red; for without this the case is serious, and a second intravenous injection is given the following day, continuing the general alkali administration by mouth or rectum. Under this treatment there is usually free secretion of alkaline urine, and the output of albumin, which usually develops early, rapidly disappears. Phenosulphonepthalein test was used in most cases, and those treated early showed no diminution of the phenosulphonephthalein output.

MERCY MUNITIONS NEEDED IN THE TRENCHES.

Lieut. Coningsby Dawson, who wrote "Carry On," says of the war work which the Y. W. C. A. is doing: "You at home cannot fight with your lives, but you can fight with your mercy. The Y. W. C. A. is offering you just this chance. It garrisons the women's support trenches, which lie behind the men's. It asks you to supply them with munitions of mercy, that they may be passed on to us. We need such supplies badly. Give generously, that we may the sooner defeat the Hun."

What Lieut. Dawson says of the Y. W. C. A., he might have said of all the national organizations which are coming together for the biggest financial campaign that organizations have ever headed. All the $170,500,000 to be raised by the seven great national organizations the week of November 11-18 will be used to garrison and supply the support trenches behind the lines. They are the Y. M. C. A., the Y. W. C. A., the National Catholic War Council, Jewish Welfare Board, American Library Association, War Camps Community Service and Salvation Army.

American girls in various uniforms mingle strangely with picturesque Brittany costumes in France. The American Y. W. C. A. has a hostess house in Brittany where the Signal Corps women live, and a hut where the nurses spend their free time. Both these centers are fitted with many of the comforts and conveniences of home.

"At a tea given at the nurses' hut one Saturday afternoon," writes Miss Mabel Warner, of Salina, Kans., Y. W. C. A. worker there, "there was an odd gathering—one admiral, a bishop, a Presbyterian minister, a Roman Catholic priest, a doctor, an ensign, one civilian and myself."

202 CASES OF INDUCED PNEUMOTHORAX.

Everett Morris, of Oak Forest, Ill., reports on his use of induced pneumothorax in cases of pulmonary tuberculosis in the October number of the American Review of Tuberculosis.

The ideal case for this treatment is a recent progressive ulcerative unilateral lesion in one or more lobes (Turban II or 111) without marked adhesion formation, the opposite lung being clinically free from pathological change. Such cases are rare and seldom found. The next class reveals extensive infiltration, consolidation, or cavity formation throughout one lobe or more (Turban II and III), with evidence of active infiltration in the opposite apex (Turban I) or its equivalent. In these the border line between utility and danger has to be sharply drawn. The treatment often relieves certain cases of acute pleurisy and may be expected to yield most gratifying results in recurrent haemoptyses otherwise uncontrollable and seemingl hoeless. Fibroid pphthisis, military tuberculosis, tuberculous enteritis and cases with serious heart and kidney lesions should not be selected. The proper time for instituting treatment, in the opinion of the author, is from two to four weeks of sanatorium regimen have brought about no marked improvement. The third necessary factor to be considered is a co-operative attitude on the part of the patient.

The author has used the Murphy outfit adapted for the use of atmospheric air with arrangements for cleansing, sterilizing and warming the room atmosphere. The procedure necessitates all the precautions proper to a major operation. All refills, as well as the initial treatment, must be preceded by thoroughgoing physical examinations. The site of puncture is sterilized and anaesthetized with novocain and the Schleich infiltration method employed. After the introduction of the needle the oscillations of the manometer indicate the position of the end of the needle and the occurrence and character of the various mechanical complications that may arise. The manometer is the vital part of the apparatus.

Large amounts of gas have proved undesirable and the maximum has been reduced from the former dosage of 1200 to 1600 cc. to the arbitrary maximum of 300 cc. Small amounts call for frequent refills depending upon the absorptive power of the pleura, a power that decreases after pneumothorax has existed for some time. In the treatment of haemoptysis large amounts of air are necessary without considering the integrity of the opposite lung. Partially replacing fluid with air in pyo-pneumothorax and hydrothorax has given palliative results. Dangers incident to the opposite lung are minimized if guarded by small amounts of air during the early part of the procedure. Success depends on how the working lung accommodates itself to the new demands made on it.

In addition to loss of many distressing symptoms due to lessened auto-intoxication, the conversion of an open case into a harmless one is of great importance, especially if the length of residence in an institution is limited.

Of the cases treated, many are helped, many restored to full working capacity, and a number have died. Proportionately more unilateral cases with haemoptysis are at work than any other class. Success depends upon the careful selection of cases for treatment. Detailed tables of 31 classified cases are appended, giving the number of treatments and the outcome.

Morris, Everett: Induced Pneumothorax. Its Use in the Treatment of Pulmonary Tuberculosis, with a Report of 202 Cases. Am. Rev. Tub., 1918, Vol. II, No. 8.

SOMEBODY'S DOLLARS WILL DO IT—I WONDER IF THEY'LL BE YOURS.

By Bruce Barton.

I will tell you what will happen some night this winter in France—some night when it's cold and dark. There will be a rustling through the front line trench, where our boys stand guard. And a heavy-ladened secretary will make his way along.

In his hands will be great steaming pots; in his pocket chocolate and cigarettes.

From one man to another he will go, passing a cup full of hot coffee to hands that tremble with the cold; bringing the comfort of a bit of sweet and a smoke.

Men will hail him cheerily, slapping him on the back; and when he has gone things will be a little easier in that trench because he has passed that way.

How much will it cost to make that trip, do you suppose? Counting the pittance that the secretary is paid, and the cost of the chocolate and the cigarettes and all?

Five dollars? Twenty-five dollars? I do not know.

But whether it is five dollars or twenty-five, I'd like to think that it is **my five** or **twenty-five**—wouldn't you? That some night when it's cold and lonesome, **my** money and **yours** might send a secretary out along that front line trench. Let's make up our minds that **we** are going to pay for a score of those trips. score of the nights this winter shall be **our** nights—nights when the boys greet joyously the chocolate and cigarettes that our money provided; and are happier because **our** representative has passed.

NEW AND NONOFFICIAL REMEDIES.

Chlorcosane-Squibb.—It complies with the standards for chlorcosane, N N. R. Chlorcosane is a liquid, chlorinated paraffin containing its chlorine in stable (nonactive) combination. It is used as a solvent for dichloramine-T, and is itself without therapeutic action. E. R. Squibb & Sons, New York.

Thromboplastin Solution-Armour.—An extract of cattle brain in physiological sodium chloride solution prepared according to the metrod of Hess. It complies with the description of Solution Brain Extract, N. N. R. As a hemostatio, the solution is applied directly to bleeding tissues or applied by means of a spray or tampon. See New and Nonofficial Remedies, 1918, p. 136, under "Fibrin Ferments and Thromboplastic Substances (Kephalin). Armour & Co., Chicago.

Corpus Luteum Capsules, 2 Grains.—Each capsule contains 2 grains of corpus luteum-Armour. (See New and Nonofficial Remedies, 1918, p. 237.) Armour & Co., Chicago.

Salipyrine Tablets, 7 1/2 Grains.—Each tablet contains 7.5 grains of salipyrine. (See New and Nonofficial Remedies, 1918, p. 275.) Riedel & Co., New York. n

Antipneumococcus Serum, Type 1, Gilliland.—It is marketed in vials containing 50 cc. The Gilliland Laboratories, Ambler, Pa.

Phenylcinchoninic Acid-Abbott.—A brand of phenylcinchoninic acid, U. S. P. (See New and Nonofficial Remedies, 1918, p. 269.) The Abbott Laboratories, Chicago.

Parresined Lace-Mesh Surgical Dressing.—Net mesh gauze impregnated with and containing from 45 to 50 per cent of parresine. (See New and Nonofficial Remedies, 1918, p. 247.) The Abbott Laboratories, Chicago.

Halazone-Squibb.—A brand of halazone complying with the standards for halazone, N. N. R. It is marketed only in the form of Tablets Halazone-Squibb 1/16 grain, each containing halazone-Squibb, 1/16 grain, anhydrous sodium carbonate, 1/16 grain, and sodium chloride, 1 3/8 grains. Halazone tablets are used for the sterilization of drinking water, one to two tablets being added to one quart of water. E. R. Squibb & Sons, New York (Jour. A. M. A., Sept. 28, 1918, p. 1059).

Sugar Treatment of Tuberculosis.—Domenico Lo Monaco, professor of physiologic chemistry of the University of Rome, has studied the influence of the secretions of sugar parenterally introduced . He found that when persons with copious bronchial secretions are given subcutaneous injections of 4 or 5 gm. of sugar (saccharose), expectoration rapidly diminishes and ceases completely in many cases. It is claimed that an intramuscular injection of strong sugar solution is of considerable value in the treatment of the tuberculous in that by diminishing the bronchial secretion, it diminishes the cough and annoying night sweats. It is further suggested that the treatment will be useful in that it will decrease the amount of sputum scattered about by consumptives (Jour. A. M. A., Sept. 28, 1918, p. 1083.)

Deterioration of Argyrol Solutions.—The manufacturers of argyrol advise that argyrol solutions be made freshly when required. The need for this precaution is confirmed by a report of work which indicated that the genococcidal activity of an argyrol solution began to decrease a few days after it had been made, and had decreased 75 per cent after two months (Jour. A. M. A., Sept. 28, 1918, p. 1084).

Instability of Fluidextract of Ergot.—There is some difference of opinion among investigators as to the keeping quality of fluidextract of ergot. However, it is clear that it loses its activity quite rapidly, and may become inert within a year (Jour. A. M. A., Sept. 28, 1918, p. 1084).

The Administration of Quinin.—From a study of the elimination of quinin in different diseases, it appears that for optimal effects it is best in most cases to give quinin every three or four hours in approximately 0.25 gm. doses, preferably by mouth except when there are gastro-intestinal disturbances, and here subcutaneous or intramuscular injection is indicated. Needless to say, the daily 2 gm. should be exceeded in cases of pernicious and primary malaria. The intravenous method should be employed in pernicious cases cases (Jour. A. M. A., Sept. 28, 1918, p. 1086).

RECOMMENDED FOR COMMISSIONS IN M. O. R. C.

Horace Mortin Evans, Chattanooga, Captain; Harry Quigg Fletcher, Chattanooga, First Lieutenant; Burton LeRoy Jacobs, Chattanooga, First Lieutenant; Joseph Wilson Johnson, Chattanooga, Captain; William Fay Lake, Chattanooga, First Lieutenant; Albert Garland Hayes, Coldwater, First Lieutenant; Willie Paxton Holloway, Covington, First Lieutenant; Abraham Jasper Guinn, Ducktown, First Lieutenant; John Jackson, Dyer, First Lieutenant; William Lindsey Medling, Dyer, First Lieutenant; Clarence Baker Agnew Turner, Dyer, First Lieutenant; Dan German, Franklin, Captain; George Byron Alder, Coalmont, First Lieutenant; John Richard W. Fowlker, Greenfield, Captain; William Pleasant Sumners, Harms, First Lieutenant; Jesse Franklin Goff, Jacksonville, First Lieutenant; William Johnson Matthews, Johnson City, Captain; Carp Sanders Kinzer, Kingsport, First Lieutenant; Hugh Lawson Carroll, Knoxville, First Lieutenant; Meek Marion Copenhaver, Knoxville, Captain; Louis Alonzo Haun, Knoxville, Captain; John Alvis Hardison, Lewisburg, Captain; Leo Clay Harris, Leoma, First Lieutenant; William Lafayette Henderson, Lucy, Captain; Vincent DePaul King, Memphis, First Lieutenant; George Robertson Livermore, Memphis, Captain; Edward Dana Mitchell, Memphis, Captain; Robert Lee Sanders, Memphis, Captain; Thomas David Cloyd, Mosheim, First Lieutenant; Harry Shelton Smythe, Mountain City, First Lieutenant; Charles Gregory Griffin, Nashville, First Lieutenant; William Moore Hardy, Nashville, First Lieutenant; Herman Paul Rieger, Nashville, First Lieutenant; William Barnard Sharp, Nashville, First Lieutenant; Letcher Evans Trent, Nashville, First Lieutenant; Roy Webb, St. Bethlehem, First Lieutenant; John Doke Carlton, Union City, First Lieutenant; James Hubert Dyer, Wartrace, Captain.

ARTIFICIAL PNEUMOTHORAX IN TUBERCULOUS PNEUMONIA.

H. F. Gammons, of Deerwood, Minn., reports a case treated by artificial pneumothorax which showed tuberculous pneumonia on the left and a few scattered rales in the right lung. The manometer showed a free pleural space with negative pressure. Twelve injections of air were given from April 27th to July 2nd in quantities of from 300 to 650 cc. and iron citrate hypodermically every other day. The temperature immediately dropped from 102.6 to normal and remained so with a few exceptions of a fraction of a degree elevation. Cough and expectoration began to diminish gradually. At the time of the report cough and expectoration were absent, haemoglobin was 85 per cent and red cells 6,000,000 per cmm. The patient walked to meals. Physical examination showed complete collapse of left lung and slight displacement of the heart on the right. The right lung was apparently inactive. Weight 125 pounds. It was felt that the pathological condition did not offer a mechanical barrier to complete collapse and stoppage of lymphatic circulation and that the infection probably followed an eruption of numerous caseous tubercles into the bronchial tubes of the left side, from which by gravitation and aspiration the bacilli were scattered in all of the alveoli of the lung at the base. As a prophylactic measure for ulcerative cases, especially bed cases with profuse expectoration, postural treatment to favor drainage would seem to be a logical procedure.

Gammons, H. F.; Artificial Pneumothorax in Tuberculous Pneumonia, Am. Rev. Tub., 1918, Vol. II, No. 8.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., NOVEMBER, 1918 NUMBER 7

THE MEDICAL ASPECT OF DENTAL CARIES IN CHILDHOOD.*

By R. H. Perry, M. D.,
Nashville.

During infancy and early childhood preventive medicine has a wider sphere than at any other period of life; for during this period arise many of the defects and infectious processes that determine the disabilities of later life. The most common defect in childhood is caries of the teeth, and one of the most frequent sources of infection is oral sepsis. However, in spite of this the ease of the teeth in childhood, especially those below the school age, still remains generally neglected.

The extent to which dental caries is prevalent in school children, we know from reports of the various school dental clinics, to be as high as 80 to 90% in some localities. In those below the school age, caries also exists to a marked degree. Thus Forsyth,[1] to determine this point, examined in the Westminster District of London 374 children under five years of age, and found that of these, 64% had dental caries. Still,[2] in a similar series of children, found that 39.8% had caries. Statistics to prove this point could be quoted at length, but it is unnecessary.

The question naturally arises as to the causes producing such a widespread destruction of the teeth, and of the consequences of such decay on the childs' general health. As to the causes producing dental caries, there has been much speculation and many theories advanced from time to time. Among the ancients a disturbance of the four principal humors of the body was assigned as its cause. During the Middle Ages the belief was held that dental worms were responsible for caries. The first reasonable explanation of the cause of dental decay is found in the writings of an anonymous German author[3] in 1530, who explained it on a basis of food decomposition and the production of acids which destroy the teeth. Fauchard,[4] writing in 1728, does not give as reasonable an explanation as the anonymous author quoted above. Boudett and Jourdain (1754-1766) advanced the vital or inflammatory theory. They regarded caries as the result of an inflammation caused by deficiency in the nutrition of the dentine, and having a central origin. In 1778 John Hunter, of London, expressed the view that caries of the teeth is a process similar to necrosis of bone. Fox, in 1806, and Bell, in 1825, expressed similar views. By the year 1830 these various views had begun to be questioned, and so, in 1835, we find Robertson, of Birmingham, England, bringing forward the chemical theory, according to which caries is produced by acids, derived from abnormal secretions, or from the fermentation of food which had found lodgement between the teeth, these acids being capable of decalcifying the enamel. According to this theory, caries always has an external origin. Reguard, of Paris (1838), contended that caries is produced at the exact spot where the acid is formed. Magitot, of Paris (1878), concluded from very extensive experimental work that caries is produced by acids developed in or introduced into the mouth. Leiber and Rottenstein (1867) were the first to suggest the part micro-organisms play in caries. This was proven definitely by Miles and Underwood, of London, in 1881.

---

*Read at the last annual meeting of the Tennessee State Dental Association, in Nashville, June 19, and published at the request of the Association.

To Dr. W. D. Miller,[5] an American residing in Berlin in 1883, was left the task of identifying the acid that produces caries and explaining its mode of production. According to Miller, food, chiefly in the form of carbohydrate, lodging between and in the fissures of the teeth, undergoes fermentation through the action of certain micro-organisms normally present in the mouth, resulting in the production of lactic acid, which causes a decalcification of the enamel and then the dentine. Howe[6] has recently asserted that the Maro-Tissier group of micro-organisms is the constant and predominating flora of dental caries. This assertion is made chiefly on the lactic acid producing characteristics of this group of organisms. The micro-biology of the mouth, however, is a very difficult subject, on account of the numerous organisms that, at one time or another, are inhabitants of the oral cavity.

Gies[7] and his collaborators have recently tried to prove that there is some "influence from the inside," as they term those of a nutritional type depending on the internal secretions, that favor the development of dental caries. Until more complete data is offered, however, Miller's chemico-parasitic theory will hold good.

In any study of caries the question naturally arises why certain individuals are attacked more than others. Black[8] explains this on a basis of immunity. Thus certain people have hereditary predisposition to caries, as is seen in certain families. Again, as individuals grow older, they exhibit a greater degree of immunity to the so-called childhood diseases; or a person will exhibit a greater degree of immunity to infection at one time than another. This same explanation applies to the development of caries; as children are less immune, caries is more prevalent amongst them.

As the organisms of decay are in all mouths, the question arises, why do not all the teeth decay when immunity is lowest? Black accounts for this through the formation of bacterial plaques on the smooth surfaces of the teeth. These plaques are gelatinous masses that adhere only to certain teeth and allow the organisms of decay to act unmolested. In this way the lactic acid is generated immediately in contact with the tooth and is not diluted with the oral secretions. This explains why one tooth will decay and an adjoining member remain intact. This was formally explained on the relative hardness and softness of certain teeth.[9] But as people with soft teeth often do not show caries, this explanation is discredited.[10] Black has shown, moreover, that hardness of the teeth does not depend on the calcium salt content, but on the mechanical structure of the enamel. Miller,[11] it may be said, discredited the importance of these bacterial plaques in the production of caries. Cavities developing in teeth with pits and fissures depend on structural imperfections in the enamel.

The importance of the reaction of the saliva and of the various salivary constituents (mucus, potassium sulphocyanid, etc.) in the production of caries has been a debated point. Miller contended that the chances for caries are about equal in a mouth with alkaline as in one with acid saliva. He also concluded that the various constituents of the saliva had very little effect in retarding the growth of bacteria. However, Wallace[12] and others think, that in persons with ropy saliva caries is more diffielt to manage and occurs more after refilling, Pickerill,[13] on the other hand, contends that caries is dependent on acidity of the saliva. Marshall,[14] wokring on Pickerill's theory, claims to be able to obtain certain factors through titration of the saliva that indicate an individuals' susceptibility to caries. This he claims bears out Pickerill's contentions. Bunting[15] and others have not been able to corroborate Marshall's work.

As to the influence of diet on caries, it may be said that a strictly carbohydrate diet tends to increase it. This is especially true of soft foods that require little chewing. That such foods form the large part of a child's dietary is well known, for the average young child is fed on mushes, custards, pudding, soft breadstuffs, potatoes, etc. Such substances probably have a more injurious effect than sugars or sweets, which are easily dissolved and do not adhere to the teeth. Fats act to a certain extent as protectors of the teeth. From the work of Pickerill and Marshall we are led to believe that primitive races, whose food is mainly protein, are as susceptible to dental caries as those whose food is largely carbohydrate. This without doubt results from intestinal toxemia from an excessive protein diet. For while it is true that the principal cause of dental caries is to be found in the mouth, it is also a fact that certain systemic conditions predispose to tooth decay. This is especially true during pregnancy, in diabetes, in syphilis, rickets,[17] and after the use of certain drugs, as mercury. The presence of adenoid vegetation in the naso-pharynx, and malovhisions also predispose to caries.

Reed[19] has repeatedly aserted that the roller process of making flour accounts for the increase in caries: that caries does not occur so often from the use of the old stone-milled flour. Basel-book[20] thinks there is an association between excessive softness of the drinking water and the increased amount of caries amongst school children. Michael,[21] in an examination of 11,762 children of Wurzburg—6,116 girls and 5,645 boys—has endeavored to discover whether there is any relationship between the frequency of dental caries and, first, breast-feeding; second, artificial feeding (cow's milk; and, third, the presence of the child during its early age in regions poor or rich in calcareous compounds. Out of 11,762 children, 7,763, or about 66%, had been fed by natural means. These infants were weaned on an average of six and one-half months. Caries was found in the proportion of 11.46%. This proportion is 8% less than that found in the remaining children, fed by different means. In 122 children who had not been weaned until the tenth month, the teeth were found to be healthy and regular, and caries was found in 6% and rickets in 2%. In children who had been weaned before the seventh month caries was found in 13% and rickets in 6%. Out of 900 children fed on cow's milk caries was found to exist in 22% and rickets in 8%. In a group of 620 children raised on different varieties of proprietary food, caries was present in 27% and rickets in 16%.

From the foregoing statistics it can be seen that children raised on mothers' milk have better and sounder teth than those fed on artificial food. The proportion of calcareous salts in the soil Michael found also has a bearing on caries. For while Rose[22] found that those from regions rich in calcium salts had teeth of better quality than those born in regions poor in those salts, Michael believes the proportion of calcium salts in the region in which the children will permanently reside has more influence than that of the region of birth. As a proper supply of mineral salts is absolutely essential to the body economy, especially to maintain health and vigor, their deficiency naturally leads to decay. This applies to calcium salts especially. Therefore a well-balanced diet seems one of the first essentials in the prevention of caries.

Pietkiewicz,[23] from observations chiefly on hospital patients, is of the opinion that an exclusively milk diet tends to cause caries. This he attributes to lowered vitality, fermentation of milk in the mouth, and lack of masticatory exercise.

Curious claims are made from time to time in regard to the cause of the increased amount of caries. Thus Dr. Beacock,[24] in the Dominion Dental Journal (1901, Vol. XIII), asserts that the increase in caries is due to vaccination; while Dr. Wm. Jones,[25] in the British Dental Journal (Nov. 15, 1913), makes the assertion that dental caries is a contagious disease.

The bad effects of carious teeth on the child's general system, to be presently pointed out, are only intensified if abscesses or pyorrhœa alveolaris are present. The idea of the systemic effects of pus absorption from the teeth is by no means a new one, although it has recently been popularized through the experimental work of Rosenow,[26]-[29] with the streptococcus viridans and the clinical observations of Billings[30] and other observers. For as early as 1801 we find Dr. Benjamin Rush,[31] of Philadelphia, extracting teeth to cure rheumatism, and in 1865 Dr. J. W. Clowes.[32] a Brooklyn dentist, made the statement that a dead tooth always has a discharge from it, and that this diseased condition caused neuralgia, impaired vision and hearing, sore throat and other general disturbances. We find other dentists as early as 1881 writing on this subject.[33] Thus the idea of the teeth as foci of infection is expressed in the papers of L. C. Ingersoll,[34] 1881; A. Witzel,[35] 1882; W. J. Reese, [36] 1886; and Louis Jack and C. N. Pierce,[37] 1892-1895. But in spite of this and the fact that Alfred Mentel, of England, in 1887 pointed out the relationship between the tonsils and acute rheumatic fever, the medical profession did not pay serious attention to the teeth as foci of infection until 1900, when William Hunter, of London, coined the term, "oral-sepsis." The voluminous literature of the past few years bears testimony to the way the subject is appreciated now. [39-46]

Additional interest has centered in pyorrhœa since Smith and Barrett [47] asserted that it is probably due to mouth amebas. Shortly after their results were published, Bass and Johns [48] announced the ameba as the specific cause and emetin as the specific cure for pyorrhœa alveolaris. The researches of Chivaro,[49] Mitchel,[50] Culpepper, and Ayer, and Williams [51] and her co-workers have shown that the ameba is of only doubtful pathogenicity in this disease.

While pyorrhœa is not as prevalent in childhood as in adult life, it nevertheless occurs, especially the varieties due to trauma, chemical, thermal, and bacterial irritants,[52] and when present is quite far-reaching in its effects. In fact, pathological conditions found in the childs' mouth show no essential differences from those found in the mouth of the adult. Their bad effects, however, are exaggerated in childhood.

The question naturally arises at this point, What are the systemic effects of decayed teeth and pyorrhœa in children; beyond local pain and discomfort are such pathological conditions in a child's mouth of any consequence? In a general way it may be answered that they account not only for many systemic diseases, but also for much mental and physical impairment.

One of the most common results of decayed teeth is disordered digestion.[53] This is brought about by swallowing food only partly masticated. Philologists quite generally agree with Pavloff and his pupils, who showed that the mere act of chewing has a tendency to excite the flow of gastric juice, since mastication brings out the flavor, but that tasteless substances do not do this. When food is chewed it enters the stomach in a semi-solid state and is easily atacked by the gastric juice. When mastication is imperfect the unchewed food enters a stomach deficient in gastric juice, consequently more time is taken for its digestion. As a result of this various types of gastro-intestinal trouble develop, the usual result being chronic gastritis or chronic gastro-intestinal indigestion. Where pus from abscessed teeth or pyorrhœa is constantly swallowed, the results are probably the same as with poorly masticated food.

As a result of these various gastro-intestinal disturbances, wasting and consequently a severe form of malnutrition [54] often develop. A common picture presented by children with numerous decayed teeth is gradual loss of weight, especially noticeable in the wasting of the arms and legs, but with an increase in the size of the abdomen; marked anemia, nausea, loss of appetite, headache, irregular temperature, and constipation, many such cases being diagnosed as intestinal parasites, or even tuberculous peritonitis.

From the fact that food is "bolted" where the teeth are carious and chewing painful, colicy pains in the abdomen often result. Failure of appetite is a frequent result of caries of the teeth. This is due to constantly swallowing septic material. Whenever this symptom is present in children the condition of the teeth should be looked into. Severe secondary anemia often results from dental caries, but more especially from pyorrhœa. According to Copeland,[55] dental decay is often the cause of fever of obscure origin in children.

Locally caries may be associated with gingivitis, glossitis, or ulcerative stomatitis (stomacace).[56] The latter condition occurs most often at the time of the second dentition and is dependent on caries and neglect of the teeth. Caries may also lead to osteo myelitis, septicæmia, and terminate fatally.[57-58]

As to the results of carious teeth on speech, Pasch's [59] findings are of interest. In an examination of the children with defective speech in the Breslau municipal schools he found that 30% were due to cavities, and another 30% to dental anomalies. In the production of retardation [60-1] in school and juvenile delinquency, caries of the teeth undoubtedly plays an important role.

That caries of the teeth causes enlargement of the cervical lymph-nodes is well-known.[62] That these same teeth often harbor the tubercle bacillus cannot be denied. Therefore many observers are of the opinion that carious teeth furnish an avenue of infection for the tubercle bacillus; and that tuberculous enlargement of the cervical and bronchial lymph-nodes result in this way. Thus Weidermann and Lubowski,[63] in an examination of 1,000 tuberculous children, concluded that caries of the teeth furnish an important source of entrance for the tubercle bacillus. Neglected mouths may sometimes confuse the diagnosis in case of incipient phthisis.[64] On children whose family history shows a tuberculous tendency, decayed teeth are a real menace. Freudenberger,[65] Knopf,[66] and Lawson Dodd,[67] especially stress the importance of the care of the teeth and mouth as one of the most essential factors making for success in the open-air treatment of this disease. While this was said of adults, they all agree that it should be said with greater emphasis in the case of children.

In the American System of Dentistry, Brubaker [68] has collected a large series of cases of reflex neuroses of dental pathology. Many of these are due to caries, and occur in children. Thus neuralgia of the eyeball, conjunctivitis, scleratitis, and loss of vision due to choroidal changes are among the conditions blamed on decayed teeth and exposed pulp.[69] Theobald [70] says he has seen cases of keratitis, monocular paralysis of accommodation, and clonic spasm of the orbicular muscle of the lids from this same cause. Otalgia, neuralgia of the ear, and sudden deafness may be caused by caries.

On account of the intimate connection between the nerve supply of the teeth and the facial muscles, caries of the teeth may cause facial spasms,[71] and even wry-neck may result from such a cause. Still thinks dental decay, especially during the second dentition, a frequent cause of habit-spasm. Headache may also result from this same cause. The pain may be general, or referred to the whole frontal, vertical, or occipital region, so that as far as the child is concerned, there is nothing pointing to the need of a dental examination.

Brubaker also quotes several histories of acute mania in the young due to caries and overcrowding of the teeth. Other conditions, as copious lachrymation, phlyctenular conjunctivitis, facial palsy, paraplegia, etc., are reported as being due to dental pathology.

Many think caries of the teeth has an intimate association with the etiology of epilepsy. Thus in Ramskill's case,[72] a boy of thirteen years had had frequent attacks of epilepsy for eighteen months. Extraction of a carious molar caused the attacks to cease. Powers,[73] in an analysis of fifty epileptic children, found that 80% had bad teeth, and from this he infers that intestinal toxemia is the prime cause of epilepsy, and that this results from improperly handled food due to bad teeth. Spratling,[74] on the other hand, from a study of 1,215 epileptics, concludes that epilepsy often results from difficult dentition in infants with a neuropathic taint.

With the tonsils, the teeth undoubtedly play an important part in the etiology of acute rheumatic fever, chorea, and endocarditis—that most important triad of diseases of middle and late childhood. Through the work of Poynton and Payne,[75] Goadby,[76] Andrews and Horder,[77] and the recent remarkable experimental work of Rosenow [78] with the streptococcus, the important role of the teeth and tonsils as foci of infection in acute rheumatic fever is shown fully. Thus Rosenow has shown by animal experimentation that the streptococcus viridans has a selective affinity (elective organization) for certain organs similarly affected in man—e. g., when a dental abscess is causing arthritis in man, if this same strain is injected into a series of rabbits, it will produce similar lesions in a large majority of the animals. He also asserts that the various organisms described as streptococcus hemolyticus, s. viridans, s. rheumaticus, s. mucosus, and the pneumococcus are also so closely related that under proper conditions one may change into the other. This would account for the various organisms that at one time or another have been described as causing acute rheumatic fever.

Although Rothschilds and Thalheimer,[79] Krumwiede and Valentine,[80] and Henrici [81] have not ben able to corroborate the "selective action" of the streptococcus, we must agree with Ashner,[82] who says "clinical experience alone would make us give some credence to the view."

Not only in acute cases of rheumatism do the teeth and tonsils act as foci of infection, but also in the chronic cases as well. Thus in Still's disease,[83] which is probably an infectious type of arthritis deformans, they undoubtedly furnish a source of infection.

That there is a close connection between chorea and rheumatism there is no doubt. Still regards chorea as being just as much evidence of the presence of rheumatism as a gumma is of syphilis. Morse[84] has recently from experimental work concluded that chorea is a germ disease with foci of infection chiefly in the teeth and tonsils. A number of other observers have been able to recover organisms from the blood of chorea cases. Such reports are found in the writings of Westphall, Wassermann, and Malkoff,[85] Poynton and Payne,[86] Collins,[87] Richards,[88] and and La Fetra.[89]

Endocarditis is such a frequent accompaniment of acute rheumatic fever that it is regarded as part of the disease. In fact, the heart involvement may be the only sign of acute rheumatism in young children. The teeth and tonsils undoubtedly play an important part in the etiology of both conditions.

Without doubt acute rheumatic fever, chorea, and endocarditis, constitute a greater menace to middle and late childhood than any other disease processes. Branson[90] states that in the London County Council School for the Physically Defective more than one-half of the deaths are due to heart disease, and that 86% of the cardiac anomalies met with are acquired affections, principally of septic origin.

As to the effects of oral sepsis on the kidney in children, there is little information at hand. However, it is a well-established fact that acute nephritis occasionally occurs after tonsilitis.[91] Baues and Campbell,[92] in an average of eight hundred tonsilectomy cases yearly for a period of several years, found that 3.2% showed a mild nephritis. The teeth would undoubtedly play a similar part in the production of nephritis in the young.

Oral sepsis by lowing immunity predisposes an individual to contagious diseases. Keyes[93] declares that St. Vincents' Orphanage has been free from infectious diseases for two years; and that, as far as he knows, there is no other agent than dentistry that has contributed to this immunity.[94] East has lately brought forward the idea that before an anæsthetic is given, one should be sure the mouth is in good condition or the weakened systemic condition resulting, together with the presence of pneumococci in the mouth, would tend to cause pneumonia.

PREVENTION AND TREATMENT.

Through school dental inspection, public health campaigns, etc., the public has been impressed with the value of oral hygiene. But this has applied chiefly to school children, much to the neglect of those below the school age. The object of this paper is to impress the importance of dental care, especially in little children—a fact not appreciated by many physicians, and even many dentists.

As caries occurs occasionally in mouths seemingly well kept, our aim should be in the first place to increase the child's immunity by the promotion of good general health. Thus if rickets or malnutrition are present we should relieve these condtions by a well-regulated diet. To prevent such constitutional disturbances breast-feeding should always be encouraged.

In all small children the diet should be carefully regulated, and all bad habits corrected, as eating before retiring, or the eating of sweets at bedtime or between meals, or too frequent eating, which leaves a constant supply of carbohydrate material in contact with the teeth, or the bolting of food, which would give rise to various gastro-intestinal disturbances. Dry, fibrous food, such as dry cereals, fresh vegetables, and fruits are especially valuable if eaten at the end of a meal, as they are antagonistic to caries.

As soon as the teeth appear they require attention. Twice a day they should be washed with a soft cloth or cotton wound around the index finger and dipped into boric acid solution. When two years of age it is well to begin the use of a soft tooth brush and a simple tooth powder. Colored preparations are unnecessary, and a simple tooth powder serves as well, such as one composed of sodium bicarbonate 1 grain, precipitated chalk 1 grain, with oil wintergreen. The child also should be instructed as to the proper use of the quill toothpick.

After the second year it is advisable to take every child to a dentist every six months in order that the deciduous teeth may be treated before they ache, and to allow the child to enter school with a healthy mouth. If cavities develop they should be filled.

Frequently children are seen with numerous decayed teeth whose general health is very much impaired. They are sent to a dentist, who says leave them alone, as they are the first teeth, that extraction would cause deformity of the jaw. As to the extraction of carious, deciduous teeth that cannot be easily filled, there seems to be a diversity of opinion. The English dentists, Colyer, Lloyd, Williams, and Wallace, favor such a procedure, while others hesitate on account of fear of producing a deformity of the jaw. The dangers of oral sepsis, it seems to me, by far outweigh the latter contention.

While it is not for the medical man to decide which teeth should be extracted, in this connection it is well to quote the rules announced at the International Dental Federation at The Hague in 1913 by Dr. Jassen, of Strassburg, chairman of the Congress: "Decayed teeth that cannot be filled must be extracted. Dry roots of deciduous teeeth must be left in the mouth until the permanent teeth appear. This will preserve the shape of the jaw. The six-year molars are to be saved if possible until the age of 12, and must be extracted only when they cannot longer be saved or when there is not sufficient room in the mouth."

In conclusion, it is strongly urged that there be a closer co-operation between physicians and dentists on the subject of children's teeth.

REFERENCES.

Shaw: Arch. Pediat., Dec., 1913.
Congress School Hygiene, Vol. 4, p. 63.

Shaw: Arch. Pediat., Dec., 1913.

[2] Still: Common Disorders and Diseases of Childhood (London, 1915).

[3] Guerini: History of Dentistry (Philadelphia, 1909).

[4] For historical facts, see Guerini's History of Dentistry; Garrison's History of Medicine (Philadelphia, 1913); Gysi: Dental Cosmos (April, 1887).

[5] Miller: Dental Cosmos (January, 1883). Also Micro-organisms of the Human Mouth (Philadelphia, 1883.

[6] Howe: Dental Cosmos (October, 1917),

[7] Gies: Proc. Soc. Exper. Biol. and Med., 1917.

[8] Black: Operative Dentistry; Vol. 1 (Chicago, 1908).

[9] Bodecker: Dental Register (Sept., 1914).

[10] Burchard: Dental Pathology (Philadelphia, 1908).

[11] Miller: Dental Cosmos, Vol. XLV, 1-85, 1903; also December, 1904.

[12] Wallace: Dental Register (September, 1914).

[13] Pickerill: The Prevention of Dental Caries and Oral Sepsis. 2nd Ed. (Philadelphia, 1914.)

[14] Marshall: Am. Jour. Physiol. (May, 1917).

[15] Bunting: Jour. Nat. Dental Association (January, 1917).

[16] Editorial Jour. A. M. A., Sept., 1917.

[17] Dick: Brit. Jour. Dent. Sci. (Aug., 1916).

[18] Austin: Brit. Med. Jour., 1910; II, 172.

[19] Reed: Lancet, London, June 19, 1909.

[20] Cook: Lancet, London, March 28, 1917.

[21] Michael: L'Odontologie, Paris, July 15, 1904.

[22] Rose: Dentoch. Monatschr. f. Lah. nheilkunde (Jan.-June, 1908).

[23] Pietkiewicz: Tribune Medicale, Paris (June 5, 1906).

[24] Beacock: Dominion Dent. Jour., 1901, XIII; Ibid., 1902, XL.

[25] Jones: Brit. Dent. Jour. (Nov. 15, 1913).

[26] Rosenow: Dental Cosmos (May, 1917).

[27] Rosenow: "Transmutation Within the Streptococcus-Pneumococcus Group," Jour. Inf. Dis., 1914, 14, 61.

[28] Rosenow: Jour. Inf. Dis., 1912, 11, 210.

[29] Rosenow: Jour. A. M. A. (Nov. 29, 1913).

[30] Billings: Forchheimers Therapusis, 1914, Vol. V; also Jour. A. M. A., 1914, p. 2024.

[31] Rush: "Medical Inquiries and Observations" (Vol. I, Philadelphia, 1801).

[32] Clowes: Dental Cosmos (May, 1865).

[33] Quoting Darling: Int. Jour. Orthodontia (May, 1916).

[34] Ingersol: Ohio State Jour. Dent. Sci. (1881, 1, 189).

[35] Witzel: Brit. Jour. Dent. Sci. XXV, 153.

[36] Reese: Dental Cosmos (1886; XXV ,550).

[37] Pierce: Int. Jour. Orthodontia (1892, 1894; XIII, XV, XVI).

[38] Hunter: British Med. Jour. (July, 1900, and Nov. 19, 1904).

[39] Editorial, N. Y. Med. Jour., Oct. 4, 1913, and March 14, 1914.

[40] Rosenberger: N. Y. Med. Jour. (Oct. 25, 1913.

[41] Proceedings Royal Society Medicine, London (Apri, 1914).

[42] Tarr: Kentucky Med. Jour. (Oct., 1917).

[43] Halsey: The Post-Graduate (May, 1914).

[44] Mayo, C. H.: Jour. A. M. A. (Dec. 5, 1914). Jour. Nat. Dent. Asso. (May, 1916); Mayo Clinics, 1914),

[45] Hartzell: Jour. Nat. Dent. Asso. (May, 1916; Ibid., Oct., 1914).

[46] Urlich: Jour. A. M. A. (Nov. 6, 1915).

[47] Smith and Barrett: Dental Cosmos (Aug., 1914).

[48] Bass and Johns: New Orleans Med. & Surg. Jour. (Nov., 1914).

[49] Phisora: Dental Cosmos (Vol. LVI, 9, 1089).

[50] Mitchel et al.: Jour. Med. Resaerch (Boston, Sept., 1916).

[51] Williams et al.: Jour. A. M. A. (Dec. 11, 1915).

[52] Hecker: "Pyorrhoea Alveolaris" (1913 Ed., St. Louis).

[53] Elmer: Dental Brie (1909, XIV, 845).

[54] Carter: N. Y. State Jour. Med. (Sept., 1913).

[55] Copeland: Jour. A. M. A. (Nov. 4, 1916).

[56] Moro in Pbanndler and Schlossmann: Diseases of Children (1910 Ed.).

[57] Broca: Revue Odontologique (May, 1905).

[58] Tobet: Le Laboratorie et le Progres Dentaire (Paris, Nov. 10, 1913).

[59] Pasch: Deutsch. Zahnaerztliche Wash. (June 24, 1911).

[60] Wallin: Dental Cosmos (April, 1912).

[61] Perry: Tenn. State Jour. (Sept., 1917).

[62] Osborne: Brit. Med. Jour. (Jan. 14, 1911).

[63] Weidermann and Lubowski: Deutsch. Zahnarzliche-Wach. (Jan. 30, 1909).

[64] Wingfield: Lancet (London, July 18, 1914).

[65] Freudenberger: Lancet, Clinic (March 11, 1916).

[66] Knopf: Jour. A. M. A. (Aug. 13, 1910).

[67] Dodd: Trans. Odon. Society Great Britain (June, 1906).

[68] Brubaker: "American System of Dentistry" (1887 Ed.).

[69] Weber: Dental Brief (1904, IX, 342): "Relation of Diseases of the Eye to Those of the Teeth."

[70] Theobald: "Prevalent Diseases of the Eye" (Philadelphia, 1906 Ed.).

[71] Hamilton, in Pepper's System of Med. (Vol. V, p. 462; also Still, Brit. Mde. Jour. (1907, II, 1485).

[72] Ramskiel: Med. Times and Gazette (1862, Vol. II, p. 216).

[73] Powers: Int. Med. Jour. (Dec., 1914); also Boston Med. and Surg. Jour. (Oct. 20, 1916).

[74] Spratling: Med. News, New York (Dec. 10, 1904).

[75] Poynton and Payne: Lancet, London (1910, p. 1008).

[76] Goadby: Lancet, London (March 11, 1911).

[77] Andrews and Horder: Lancet, London (1906, p. 708).

[78] Lee Notes, 26-30.

[79] Rotchschild's and Thalkeimer: Jous Exp. Med. (1914, 19, p. 444).

[80] Krumweide and Valentine: Jous Inf. Dis. (1916, 19, p. 760).

[81] Henrici: Jour. Inf. Dis. (1916, 19, p. 572).

[82] Aschner: Jour. Inf. Dis. (Oct., 1917).

[83] Still: Albertt's System (Vol. III, p. 102); also Manning and Fassett: Ach. Pediat. (June, 1914).

[84] Morse: Am. Jour. Dis. Child (July, 1916).

[85] Westphall et al.: Berl. Klein. Wach. (1899, XXXVI).

[86] Poynton and Payne: Lancet, London (1905, II, 1750).

[87] Collins: Brit. Med. Jour. (1913, 1, 220).

[88] Ricards: Jour. A. M. A. (1914, LXII, 110).

[89] La Fetra: Ach. Pediat. (1915, XXXII, 135).

[90] Branson: Brit. Med. Jour. (Nov. 23, 1912).

[91] Morse: Ach. Pediat. (1904); also Loeb: Jour. A. M. A. (Nov. 12, 1910).

[92] Baues and Campbell: Am. Med. (June, 1913).

[93] Nodine, quoting Keyes, Dent. Cosmos (Aug., 1914).

[94] East: Jour. Nat. Dent. Asso. (July, 1917).

SOME CLINICAL OBSERVATIONS ON PRIMARY INFECTION OF THE MASTOID, WITH REPORT OF CASES.*

By O. DULANEY, M. D.,
Dyersburg.

In a review of literature on primary mastoiditis we find a few clinicians who will admit their doubt as the primary mastoiditis without the association of middle ear trouble. While it is a debatable question, all authorities admit that such a thing is possible without concurrent involvement of the tympanic cavity; especially is this believed to be true on account of their close anatomical relation.

Mastoiditis, the same as any other bone affection, is always due to an infection, and may be caused by any of the well-known micro-organisms. The same micro-organism may attack the bone in any part of the human skeleton. This, alone, should be enough to convince us that the mastoid itself is not immune to being the primary seat of infection. It may occur concurrent with foci of infection involving any tissue of the body, and especially do we find a strong tendency to the involvement of a healthy mastoid in an individual where one of the mastoids is diseased. In the history of some of my cases, this fact has been noticed a few times. The involvement of the second mastoid may occur within a few days, weeks, or even years later. Hereditary tendencies certainly play their part, as we sometimes have more than one case in the same family. Three children in the same family were referred to me last June, for operation. All three had mastoiditis as a complication of measles. In one instance the patient stated that her father had died as a result of mastoiditis, and one of her sisters was also suffering from chronic mastoiditis.

---

* Read before Section on Ophthalmology and Otolaryngology at annual meeting of Tennessee State Medical Association at Memphis, April, 1917.

As I have stated, mastoiditis may be caused by any of the well known micro-organisms, but the streptococcus, pneumococcus, and staphylococcus seem to play the principal part in this connection. It is not always possible to identify the micro-organism, bacteriologically speaking; the clinical picture, alone, is not always sufficient to distinguish the type. The true type of infection cannot always be isolated.

It is possible that the infection may reach the mastoid by the invasion of tissue, lymphatics, or carried directly through the blood stream. The infection may gain entrance from the nasopharynx through the eustachian tube, middle ear, then to the mastoid antrum and pneumatic spaces.

Primary mastoiditis occurs most frequently in epidemics of exanthematous fevers, also a frequent complication of la grippe and pneumonia. Pyorrhea, or any local focus of infection, should not be overlooked.

So far as I was able to find in the literature on this subject, only one per cent of cases occurred primarily in the mastoid. In a series of twenty-nine mastoid cases referred to me within the past twelve months for operation, eight of this number had bilateral involvement, which made a total of thirty-seven mastoids for observation and clinical study of their pathology and symtomatology. In three of the thirty-seven, postoperative diagnosis was primary mastoiditis without tympanic involvement. The total number of cases were merely mentioned in order to show you how my conclusions were based.

The pathology found in acute or chronic primary mastoiditis does not differ from the pathology found in cases of concurrent tympannic cavity involvement, so far as the mastoid itself is concerned. Even the primary case unoperated may result in an extension to the middle ear and produce the complications usually associated in concurrent mastoiditis. The writer will admit that he, himself, until recently, was skeptical in regard to mastoiditis ever occurring without tympanic involvement. But from recent clinical observations, there isn't any doubt in my mind but that it does occur.

It is not always an easy matter to make a diagnosis of this condition, and without the association of middle ear inflammation the symptoms are misleading. It is only after some time, and a close study of the case, that we are able to make a satisfactory diagnosis. This is true, whether the trouble is limited to the periosteum, cortex, antrum, pneumatic spaces or anything else in connection with the mastoid. There may be an extensive destruction of the osseous tissue, cells, and all of the pneumatic spaces completely destroyed, and yet no trouble of consequence in the middle ear.

In the three cases observed by me, two were due to streptococcus, one to pneumococcus infection. The pneumococcus case occurred during an attack of measles. One patient had concurrent streptococcus tonsilitis, while the other patient gave a history of a general metastatic infection as the result of some pelvic trouble, for which she was operated six months prior to entering hospital for mastoiditis.

Symptoms of primary mastoiditis are pain over the mastoid antrum, or process, which may radiate to a point between the apex of the mastoid and angle of jaw. More especially do we find the pain to radiate over the temporal region, with headache, which may or may not be localized. Pain over the mastoid may be of a slight, dull, aching characacter, or even intense. Patient will often complain of stiffening of the muscles of the neck, and also pain in this region. In some cases pain may not be a symptom; especially is this true in or around the mastoid. In the history of some patients, this should not be overlooked. They will state to you that something is wrong with their head, and cannot state their feelings satisfactorily to you or to themselves. There is uneasiness, or discontent, with a certain amount of nervousness usually found in the patient in a toxic condition. A careful study of the history of the case, and with patience, valuable information can be elicited, which is of material importance in making a diagnosis. A statement will be made by some that as long as they are up and going they feel better, but at night, after retiring, the pain will become more annoying, sleep irregular and finally reaches a state of insomnia. On the other hand, pain may be severe from the onset, accompanied by rapid destruction of the mastoid tissue, and suddenly the pain will subside, leaving one to believe that the patient is better, when at the same time there is an increased rapidity of destruction taking place. In the acute stage, temperature is slightly elevated, from 100 to 101 degrees F., pulse-rate 90 to 120, according to the individual case. As the case becomes more chronic, temperature often drops to subnormal, but the pulse-rate is increased. A history of slight rigors followed by an elevation of temperature is the evidence of the invasion of more tissue. Swelling over the mastoid does not occur in every case of mastoiditis, nor can we determine the extensiveness of the destruction by this symptom. There may be a complete destruction and yet no swelling, while in another case, with a small area involved, there may be considerable swelling. The same can be said in regard to tenderness, as it is quite noticeable in many cases. The symptoms above enumerated are not always characteristic of primary mastoiditis, and a great deal of difficulty may be incurred in recognizing the trouble, in which case a close watch must be kept of the patient on account of the rapid invasion of the cranial cavity, which often occurs unless there is prompt surgical interference. When recognized, it is a physician's duty to insist on an early operation and warn the patient of the danger that often results from negligence. You should state to the patient that meningitis is a frequent complication, and also that in this stage of the game practically all die. But if an early operation is done, with all the necrotic tissue removed, immediate relief will be the result. The etiologist who recognizes the danger of a delayed operation and often fatal results from this cause should not hesitate, after carefully watching the patient for a few hours and after eliminating the possibility of any other cause for the symptoms produced, to operate at once, even though it may be for exploratory purposes. There can be no reasonable argument against this being done, no more than could be against the general surgeon, who often makes an exploratory incision of the abdomen.

A mastoidectomy done in time, with early drainage established, will prevent a serious impairment of hearing, which is so often caused by delayed operations. If an early operation is done, it removes the danger of a perforation of the drum membrane, and normal hearing is restored.

Report of Cases.

Case 1.—M. W., female, aged 8, entered Baird-Dulaney Hospital June 4, 1917, with the following history:

Three weeks prior to entering hospital she had an attack of measles, and on the tenth day of her attack, pain began in the right ear and over the mastoid, with swelling, also tenderness on pressure. On the third day the ear began to discharge freely, but the pain increased in severity each day. Inspection of the ear showed large perforation of the drum membrane, with free drainage. Temperature was 101 F.; pulse, 120; leukocyte-count, 20,000; polynuclears, 81.6 per cent. The purulent discharge from the right ear had a foul odor. The child was anemic, with enlarged tonsils, and gave a history of frequent attacks of tonsillitis. X-ray examination showed considerable involvement of the mastoid. A radiograph was made of the opposite mastoid for comparison, but the result was that the left mastoid was found to be the worst affected of the two. Patient was prepared for operation, which was to be done the next day. During the night pain began in the left ear, which was so severe in character that it necessitated the giving of an opiate for relief.

The tympanic membrane was intact; no bulging, but slight tenderness over the mastoid antrum and process, which had developed within twenty-four hours. After making the usual incision for mastoidectomy, and the resection of the periosteum, a chisel was then used to expose the antrum, which was easily done with one slight stroke of the hammer. The remaining cortex of the antrum and process was removed with a periosteal elevator. When this was done the lateral sinus was in plain view. After removing some unhealthy granulations and such necrosed tissue as was necessary, the abscess cavity was packed with gauze and the wound was closed in such a manner as to obtain the very best possible drainage. While a bilateral operation was done, the right mastoid did not show anything of interest in this connection. Patient improved rapidly and made good recovery.

Case 2.—J. F. C., female, aged 21, entered Baird-Dulaney Hospital September 21, 1917, with the following history:

Complaining of pain over the left mastoid antrum and process of three weeks' duration, also a headache, which had been constant for two years. Physical examination showed slight swelling behind the ear, tenderness on pressure, tympanic membrane intact and apparently normal. Temperature was 97.5 F.; pulse-rate, 110; leukocyte-count, 17,000; polyyuclears, 68 per cent. X-ray examination showed a large area of involvement, with a proliferation of all the cells of both antrum and process. The osseous tissue was destroyed in every direction, and presented the largest cavity on operation that I have ever seen as a result of a mastoidectomy. Postoperative diagnosis, primary mastoiditis, with no tympanic trouble. Patient stated that her temperature had been subnormal for two years prior to entering the hospital for mastoidectomy. Since the operation her temperature is normal, she has gained considerably in weight, and has the appearance of a strong, healthy woman. This is a patient that I mentioned in my general remarks, having had streptococcus infection of the mastoid, and also the pelvic operation six months prior to my seeing her.

Case 3.—On October 10, 1917, B. B., aged 23, was admitted to the Baird-Dulaney Hospital for mastoid operation, with the following history:

Two weeks before admission she had had pain over the left mastoid, especially over the process near the apex. This pain had continued constantly, patient was unable to sleep, very nervous. The trouble started with a streptococcus sore throat. Her tonsils were removed six days prior to entering hospital, for mastoid operation. The fourth day after tonsils were removed, pain increased in severity. Physical examination showed that the drum was intact, normal in appearance, with no bulging. Slight swelling over the mastoid, with tenderness on pressure; temperature was 97.5 F.; pulse-rate, 100; leukocyte-count, 6,000, while the X-ray positively confirmed a diagnosis of extensive mastoid trouble. Transillumination showed area involved clearly. Postoperative diagnosis primary mastoiditis. Soon after the patient was dismissed, and on November 25, 1917, patient returned to the hospital complaining of dizzy spells, which were gradually becoming more frequent. She stated that on an attempt to lift anything from the floor she would lose control of herself and fall. These dizzy spells were always followed by a severe headache, not localized. After each attack, the headache increased in severity. Patient was placed in bed for purpose of making a diagnosis. Temperature was 97 F.; pulse, 120. On the second day she suddently developed pain over the mastoid, which radiated over the temporal region. Slight swelling was noticed behind the ear, with tenderness on pressure. Leukocyte-count, 6,000, the same as her former record. X-ray showed an extensive involement of the antrum and process, but nothing to indicate any tympanic trouble. The patient was prepared for an operation, which was to be done the next day, but within a few hours the pulse-rate suddenly dropped from 120 to 50. An immediate operation was done. Postoperative diagnosis, primary mastoiditis. The sudden change in the pulse-rate was evidently due to the toxic condition of the patient. At the time of the operation, the considerable destruction of the osseous tissue was observed, and a complete destruction of all the pneumatic cells of the process and air spaces, leaving only some unhealthy granulations to be removed. No sign of middle ear trouble was evident. Patient made a good recovery from operation. Bacteriological examination of the culture growth showed streptococcus infection. The pathology found was not sufficient to show that there was any labyrinthine trouble to cause the dizzy spells that she complained of in the history of her case. However, this loss of equilibrium might have been due to a toxemia or a slight inflammatory condition of the labyrinth that could not be observed by inspection at the time of operation.

Too much emphasis cannot be placed upon an early x-ray examination, and this should be repeated from time to time, as this procedure is considered necessary and important to adequate surgery. It is insisted that standard methods be inaugurated. The advantage of an x-ray from a diagnostic standpoint is evident. Careful interpretation is certainly not of minor importance. A close study of the radiograph should be made by both the etiologists and roentgenologist.

Transillumination, with its proper interpretation, is certainly quite a valuable adjunct in connection with making a diagnosis, and, to my mind, by clinical observations, is almost as satisfactory as the x-ray examination. However, by this method of examination you cannot furnish later proof which is very necessary in some instances, nor is this method of use to us at the time of operation. The x-ray picture can be carried to the operating room for a comparison.

The internist should be consulted in every case where there is suspicion of mastoid trouble, as the bacteriological and pathological findings are important factors in the scientific treatment of all cases. The advantages of such an organization for the purpose of diagnosis and treatment of mastoid conditions is quite evident from an economic and surgical standpoint.

In regard to the operative technique, it is not necessary to take up your time in describing the different methods of various surgeons in detail, but to insist that every case of mastoiditis be handled surgically so as to obtain very best possible results. The main object in view is to remove all necrotic tissue, to establish good drainage. The abscess cavity should be closed up in such manner as to obtain the very best cosmetic effect. A large depression over the mastoid following an operation for mastoiditis is inexcusable on the part of the surgeon, and certainly an unpleasant reminder to the patient, more especially ladies. This can be avoided by closing up the wound in the following manner: suturing the pesiosteum and skin up separately, the periosteum with chromicized catgut, the skin with silkworm gut. The entire abscess cavity is closed up with the exception of the lowest point, or, in other words, the beginning point of the primary incision, which is near the mastoid tip. Here a small diamond-shaped opening is left and a rubber tube is inserted through this opening well up into the cavity and should remain for three or four days. After removing the tube the entire cavity is thoroughly cleansed with a 50 per cent alcoholic solution containing boric acid, and through this small diamond-shaped opening the cavity is then packed with a narrow piece of tape that has first been saturated in a 10 to 25 per cent iodine solution, as the individual case may require. This is repacked daily for three to six weeks, which is the usual time required to fill in by granulations. By this method of treatment, the cavity is completely bridged over and is allowed to granulate from a larger surface. The periosteum is held up and kept from attaching itself and the cavity is allowed to fill in slowly by healthy granulations. To obtain good results this method is essential, and a good operator should not be satisfied with anything less, if for no other reason than to produce the very best cosmetic effect. Even in the most radical operation the same result can be obtained, if the after treatment is properly carried out and the abscess cavity is allowed to heal slowly by granulation. And with the assistance of nature, diligence and patience, we will be rewarded for our work.

DISCUSSION.

DR. T. H. WOOD, Nashville: Dr. Dulaney has presented us with a paper upon a most interesting subject—viz., "Primary Mastoiditis, or Mastoiditis Not Preceded by Otitis Media." The older writers led one to believe that mastoid abscess was practically always secondary to otitis media, and while of course it is not the rule, yet I can myself recall some five or six patients whom I have had, and who had mastoid abscess, as was proven by operation, and yet in whom there was no known present or recent otitis media. It is therefore my belief that Dr. Dulaney is correct in his view that we do have, not often, but occasionally, primary mastoiditis, and the knowledge of these cases should serve to fortify us against an error in diagnosis when we have the symptoms of mastoiditis without otitis media. In this connection, however, frankness compels us to admit that an otitis media, eoither at present or recent, may have existed and have been of such a mild type that it was possibly overlooked both by the patient and by the physician; so that it is, after all, perhaps rather difficult to prove that the mastoid abscess was in reality primary. But we certainly do have cases of mastoid abscess where the otitis media, if recent or at present, remains unproven.

DR. McKINNEY said that Dr. Dulaney certainly had had a very rich experience in the class of cases reported by him. Personally he had always felt doubtful as to whether there could be a mastoiditis without previous involvement of the middle ear. His own experience comprised but two or three of these cases where there had been a mastoid abscess without apparent middle ear discharge, but even in these he was not convinced that there had not been a middle ear abscess prior to the mastoid involvement, and was inclined to believe that there had been a middle ear inflammation, without rupture of the membrana tympani, and that the pus had merely gone into the mastoid cells without drainage through an opening in the membrane, or drained through the eustachian tube, as we all know sometimes occurs. He was not prepared to say that there could not be a mastoid abscess without prior involvement of the middle ear cavity, but from his own experience, he felt that there was a strong element of doubt as to this. Dr. Dulaney had made a very interesting contribution to this subject, and was to be congratulated upon having had an opportunity to see so many cases of this character.

DR. DULANEY (closing): In closing I would like to thank the gentlemen for their discussion and would like to call your attention briefly to some few points. Dr. Moore stated that the percentage of primary mastoiditis that I had had was rather high. This, I will admit, is true. To this, I stated in my paper, that there had been an epidemic of mastoid trouble in my territory within the last few months. Also, my method of making a diagnosis was quite sufficient to back up the accuracy, and postoperative diagnosis was made clear enough to determine the extensiveness and pathology in the patients observed by me. In regard to transillumination, my remark should have been clear enough to have been understood. I use a small De Zong type of light for transillumination, and I would like to show Dr. Moore one patient that I have at the present time for comparison. Of course, this method of examination is backed by other findings. Dr. Davis spoke of patients' hearing being accelerated as a result of an inflammatory condition. I do not believe that this is true, when we have an associated mastoid antrum suppuration. At least, I have been unable to find this true in literature.

A DISCUSSION OF SEVEN THOUSAND INDUSTRIAL INJURIES.*

By Duncan Eve, Jr., M. D.,
Nashville.

I have the pleasure of presenting to you the classification of seven thousand industrial injuries. As an introduction to my paper, I feel that a few words of explanation as to how I have recorded this classification should be made. I wish to state that the cases, as classified, have not been selected, but were taken as they were recorded on the books, dating from January 1st, 1912, up to the latter part of December, 1917, making practically six years. I also wish to say that where there were two or more injuries sustained by the same patient, the most important injury alone was recorded. Therefore you will see that my paper represents not only seven thousand injuries, but also seven thousand patients.

I desire first to present to you a general classification of these injuries:

GENERAL CLASSIFICATION.

1.	Contusions and sprains	2,346
2.	Eye injuries	1,631
3.	Lacerated Wounds	1,417
4.	Fractures	619
5.	Infections	240

---

*Read at annual meeting of Tennessee State Medical Association at Memphis, April, 1918.

6.	Punctured Wounds	206
7.	Burns	205
8.	Amputations	167
9.	Dislocations	45
10.	Concussions	30
11.	Foreign bodies	27
12.	Heat exhaustion	20
13.	Synovitis	15
14.	Electric shocks	14
15.	Bursitis	9
16.	Frostbite	9
	Total	7,000

In the above classification a few facts are of interest.

There were 664 cases where the osseous structures were involved—*i. e.*, fractures and dislocations.

There were 205 burns, of which there were 27 electric burns. Out of the 205 cases, there were two deaths.

Out of the 7,000 cases, deaths occurred in 64 instances, giving a death rate of .9 of 1 per cent. The causes of death were: 18, skull fractures at the base; 6, fractures of the vertebræ; 4, fractures of the pelvis; 4, fractured ribs with internal injuries; 6, electric shock; 2, burns; 2, amputations of the shoulder joint; 3, hip joint amputations; 8, thigh amputations; 3, leg amputations; 2, fractures of the hip; 3, fractures of the femur; 1, patella fracture; 1, fracture of the humerus, with internal injuries, and 1, Colles's fracture, which was compound.

REGIONAL CLASSIFICATIONS.

Head.

Laceration	468
Contusion	137
Eye—1912	281
1913	341
1914	291
1915	253
1916	277
1917	188
Total	1,631
Burns	38
Infections	14
Concussion	26
Fractured Nose	20
Fractured Jaw	12
Fractured Skull	19
Fracture of base	21
Total	2,386

In the above classification there were 468 lacerations of the head, three scalp wounds to one of the face. In regard to the eye, we have seen a decided reduction in these injuries lately. This is due to the "safety first" movement, which began in our shops the latter part of 1916. This reduction has taken place in spite of the fact that we have more mileage and a larger number of employees. Therefore, we see the necessity for the wearing of goggles to protect the eyes.

There were 21 cases of fracture of the skull at the base, of which 18 died, giving a mortality of 85.7 per cent. In regard to fracture of the base of the skull, I think Dr. Beasley, of Chicago, wrote the most valuable article on this subject some time ago, therefore I will quote his article in regard as to *when* to operate: "It is poor surgical judgment to operate on patients having brain injuries. No matter how extreme, if the patient is in such shock that the pulse rate is greater than 120; the shock overshadows the signs of intracranial pressure, if present, and any operation at this stage will be but an added shock and thereby merely hasten death. If the patient is in a condition of severe shock with a pulse rate above 120, it's much wiser to avoid all unnecessary examination and depend on the routine expectant palliative treatment for a while. If the patient can survive this acute condition of shock, then the pulse rate gradually descends, the blood pressure rises and the deep reflexes return. Small amounts of cerebro-spinal fluid should be withdrawn by lumbar puncture to estimate its pressure and the presence of blood and the rate of the pulse, and respiration carefully noted every ten minutes. Should the pulse rate gradually descend from 100 to 90 and then to 80, 70 and then 60, and even lower, and if the opthalmoscope shows signs of increasing intracranial pressure with or without the presence of blood, then a relief of this intracranial pressure should be strongly considered, whether it is due to a localized hemorrhage or merely to a very edematous swollen brain. Any operative procedure for the relief of the intracranial pressure should be undertaken while the pulse rate is descending, at 60 or below, for once it has reached its lowest level of medullary compression, the danger of a medullary edema is great.

If it does occur, the pulse rate begins to rise rapidly and I have yet to see a patient recover, whether or not operation is performed. The danger of the operation while the pulse rate is descending is far less than the danger of the possible onset of the signs of a medullary edema, the mortality being then practically 100 per cent."

Chest.

Fractured clavicle	26
Fractured ribs	73
Dislocation of clavicle	6
Burns	8
Contusions	222
Total	335

There were six dislocations of the clavicle, one at the sternal end, and the other five at the acromial end, four of which were operated upon.

Lumbar Region.

Contusions and sprains	307
Fractured vertebrae	7
Concussion of spine	4
Burns	5
Total	323

In the above classification you will notice there were seven fractures of the vertebræ, with six deaths. The one that recovered was an employee of the Cumberland Telephone Co., who was struck between the shoulders by a pole, which produced a fracture of the second lumbar vertebræ, with marked displacement. He had no symptoms of paralysis. He suffered with muscular spasm of both thighs for several weeks. There was no operation performed upon him. The treatment was Buck's extension, and he was in bed two months. He was discharged in about twelve months for light work.

Abdomen and Pelvis.

Injuries to the scrotum	13
Fractured pelvis	6
Contusion of abdomen	18
Total	37

Electric Shock.

Electric shock	14
Heat exhaustion	20
Total	34

The next chart shows six fractures of the pelvis, with four deaths. There were fourteen patients who received electric shocks, with six deaths.

Shoulder, Arm to Hand.

Lacerations	71
Contusions	353
Burns	32
Infections	10
Synovitis	2
Punctured wounds	21
Foreign bodies	7
Fractured humerus	23
Fractured elbow	19
Fractured radius	6
Fractured ulna	4
Fractured both bones forearm	31
Colles's fracture	57
Amputation, shoulder joint	5
Amputation, arm	7
Amputation, forearm	8
Dislocations, shoulder	19
Dislocations, elbow	5
Bursitis	6
Total	686

There were fifty-seven Colles's fractures; two were compound, and one of these died from gas bacillus infection.

Hand.

Lacerations	673
Contusions	236
Burns	70
Infections	133
Punctured wounds	51
Foreign body	17
Amputation, fingers	51
Fracture, fingers	77
Fracture, metacarpal	18
Dislocation, fingers	8
Frostbite	5
Total	1,339

The point of interest in the above classification is, in the 673 lacerations of the hand and fingers, there were seven on the fingers to one on the hand.

Leg.

Lacerations	86
Contusions	493
Burns	25
Infections	37
Punctured wounds	19
Foreign body	3
Synovitis	13
Periostitis	9
Bursitis	3

Amputation—Hip	4
Thigh	26
Leg	18
Fracture—Hip	18
Femur	26
Patella	3
Tibia	9
Fibula	7
Both bones, leg	49
Pott's	23
Dislocation, hip	7
Total	896

You will notice there were 4 hip-joint amputations on the chart, with a mortality of 75 per cent. There were 26 thigh amputations, with 8 deaths, giving a mortality of 30.5 per cent. There were 30 amputations of the leg, with 3 deaths, giving a mortality of 10 per cent. In regard to our seemingly high mortality in thigh amputations, we wish to state that a large majority of such accidents occur at some distance from our city, therefore by the time we get them they are several hours old and have been unduly shocked by travel and the necessary handling incurred thereby.

In regard to the three deaths in leg amputations, we would state that all three were double amputations and two of the deaths were due to tetanus. This is the first tetanus in our railroad work for over twenty years. Both of these cases occurred a few months ago, and both in a few weeks of each other.

Foot.

Lacerations	119
Contusions and sprains	567
Burns	27
Infections	46
Punctured wounds	115
Amputation—Toes	31
Foot	5
Fracture—Metatarsal	35
Tarsal bones	3
Toes	27
Frostbite	4

On this chart there were 567 contusions and sprains of the foot. About 65 per cent were sprained ankles.

Fractures.

Skull	40
Nose	20
Lower jaw	12
Clavicle	26
Ribs	73
Spine	7
Pelvis	6
Humerus	23
Elbow	19
Radius	6
Ulna	4
Both bones, forearm	31
Colles's fracture	57
Metacarpal	18
Fingers	77
Femur	44
Patella	3
Tibia	9
Fibula	7
Both bones, leg	49
Pott's fracture	23
Tarsal and metatarsal	38
Toes	27
Total	619

This chart shows that fractures make up 8.8 per cent of the total 7,000 injuries. Of the 619 fractures, 21.1 per cent were compound. Leaving out the skull, nose and jaw, the above figures read 13.9 per cent compound fractures.

In fractures of the forearm there were two with nonunion, and both of these were associated with lues. Both of these cases were transplanted and made a marked improvement after placing them on the anti-syphilitic treatment. There was also a case sent to us with non-union of the radius, which was transplanted with good results.

Of fractures of the hip there were 18 cases, with two deaths and one with non-union that was sent to us for operation, which was performed with good results. Also, one with delayed union, which is now under treatment.

Of fracture of the shaft of the femur, there were 26 cases, with 3 deaths, two of which were sent t ous badly infected, due to Lane's plates, and the other one, which we transplanted, died from embolism.

Of fracture of the patella, there were 3 cases; two of these were treated by open operation, and one of these died from sepsis. This was a compound fracture in the beginning.

Of fractures of the leg, there were 88 cases, of which 9 were tibia, 7 fibula, 49 both bones of the leg, and 23 Potts' fractures. Of the above number we had 18 cases of nonunion. Of these cases, 14 were referred to us, while the other 4 occurred in our own work.

Lanes' plates were used in 8 of the 18 cases, 6 of which had to be removed on account of infection. A simple plaster cast was applied in two cases, with good results. These two patients were advised to gradually bear weight upon the affected limb while wearing the cast. The other eight cases we transplanted, with uniform good results.

In regard to infection, I have found in our work that in using Dakin's solution, with its complicated apparatus and technique, we have not obtained the brilliant results claimed by others. The newer antiseptic, "Dichloramina-T," I have found to be of more value, especiallly in office work. In our opinion, the Ochsners' treatment, alcohol and boric acid solution, has given equally good results.

DISCUSSION.

DR. WILLIAM BRITT BURNS, Memphis: Dr. Eve is to be congratulated upon his wonderful tabulation of a great many cases of injuries, and it is hardly possible to discuss all of the points brought out by him.

I would like to confine my remarks to a discussion of several of the conditions he has mentioned. First, brain injuries. The doctor reports ten cases of fracture of the skull. I have done fifty-one trephine operations for different injuries, some for extensive fracture, others for cerebral hemorrhage, mainly rupture of the middle meningeal artery in the larger or smaller branches. Of these fifty-one cases, there were seven deaths.

I was impressed a good many years ago by seeing a large number of these cases of head injuries come into the hospital unconscious and treated upon the expectant plan. I have seen those patients lie there and die. About that time I began to practice trephining in all cases of injury of the skull that were unconscious and showed any symptoms later, and the work has been justified by the satisfactory recovery in a large number of cases. You cannot always tell the amount of injury to the brain. In some cases we will have marked symptoms, with a very small hemorrhage, either extra or tradural, and in other cases, with a very extensive fracture and a large clot, there will be very insignificant symptoms.

I remember very well a case that I reported to this Society some years ago of a man who was struck upon the malar process by the handle of a jack. He was unconscious some few minutes, probably five or ten minutes. I saw him in fifteen minutes after his injury and he was conscious at that time. He showed a small contusion and slight abrasion of the malar process. This man gave a history of having had headaches before his injury. The time-keeper at the shops knew that this man would lay off frequently on account of headaches. The headaches were not aggravated as a result of the injury. In the cours of two or three months afterwards, sometime in October he was injured, and about the first of January he showed some symptoms of brain injury, and about the 7th of January, I think, he showed a partial paralysis on one side. He was operated on, and I found a blood clot as large as my hand—a very large clot, a peculiar formation. The clot was practically dry. This man had obtained first-class life insurance between the time of his injury and the time of the operation. The onset of symptoms in January occurred some 1,700 hours after the first period of unconsciousness—in other words, there was a 1,700-hour free interval. The syymptoms coming on in January were due to a degeneration of the brain, and the man died.

I cite this case because of the very large blood clot. There was no fracture, but the impact was received upon the malar process, transmitted to the zygoma and up through that to the temporal region and rupture of the middle meningeal artery had occurred; a slowly forming hemorrhage had come on without abrupt pressure, and the brain accommodated itself, so that he went about and was practically normal so far as his family and his associates could determine.

I want to speak of burns for several reasons. I had one case of a fireman whose engine turned over on him and scalded him, and about one-third of the whole circumference of the body was uncovered absolutely down to the red muscle. This man was kept in the hospital from December of one year to October of the next year. He was grafted twice from himself, which I call autografts. He was grafted seven times from grafts taken from amputated stumps, and this was at a time when we did a great many amputations. These grafts were taken from the stumps of amputations which I called hererografts.

DR. JOHN STEELE, Chattanooga: I had the good fortune to be in Chicago with twenty-nine other surgoens of the Medical Department of the Army to take a special course in fractures, dislocations, and frostbites, and Dr. Eve's excellent paper brought up a fe wpoints that we had emphasized to us this month.

The first point was the question of amputations during this present crisis. On the battle front they have found out by experience, and Dr. Eve's paper bears this point out, that they lost a great number of men by putting on first aid dressings and send these men back to the field hospitals, to the evacuation or base hospitals, and then doing amputations. So now they do the old-fashioned operation right up on the firing line, not trying to make any flap of the wound, simply cutting the leg off with no flap, tying the blood vessels, putting on surgical dressings, and sending the men for secondary operation after they have recovered from their shock. Sometimes it took two and sometimes it took six months before the secondary operation was performed, but they have reduced the mortality to a very large extent. That is what they are doing tdoay on the battle front.

With regard to the question of treatment of burns, I have written two or three papers on this subject and have tried everything in the world, and thought I had something of some value. When I saw Dr. Meyer, of the Cook County Hospital, treat his burns with adhesive plaster, it was an eye-opener to me. I want to say to any of you when you have slight degree burns, burns that are not extensive, about the size of the hand. if you will use adhesive plaster on these burns, you will get excellent results. It is the most wonderful thing in the treatment of burns I have ever seen. For large, extensive burns they use entirely melted paraffin, not trying to use any of the commercial remedies. The melted paraffin is applied with a paint brush. The patient will not complain of pain, and it is perfectly wonderful to see the results.

I want to emphasize the point of how men who are doing a large amount of bone work condemn the use of Lane bone plates, several expressing it in this way as "putting a monkey wrench into a man's body." It will not work. However much we owe to Mr. Lane for his great work, it has been proven absolutely that the putting of large metal bodies into bones will not work, and it has been practically discontinued except in exceptional cases in the work done in Chicago and also on the European battlefields.

As to the value of Dakin's solution, it is not a question of whether you use Dakin's or any other remedy—it is the question of through and through absolute continuous adn completely applied surgical drainage. Another thing that has been brought out after hearing Dr. Canfield and seeing his wonderful slides sent over by the French, is the question of cutting out entirely all the injured tissues from shrapnel wounds. This will apply to any injury that you may haev in civil practice, where a man has a splinter of steel or is injured by an explosion of any character. Simply take your knife as soon as necessary and cut away all of the injured tissues around the site of injury; don't be afraid to cut them deep, and then use through and through drainage. It matters not whether you use Dakin's solution or what you use, but cut away all injured tissue, establish through and through drainage, and you will be surprised at the results you get.

DR. E. J. JOHNSON, Memphis: I want to thank Dr. Eve for the splendid presentation of his paper. His classification of the different injuries is unusually good, showing that Dr. Eve has given a great deal of attention and hard work to the subject in classifying it as well as he did. I have enjoyed his paper immensely.

With reference to dealing with fractures of the skull, I think he is quite right in observing and respecting the pulse rate. However, we could in a measure make an error in that way. I have in mind some recent cases due to accidents, extreme contusions, where there was a fracture extending across the entire skull into the base, with a weeping edema of the brain. In two cases I have in mind, I believe if I had delayed poerating on them, I would have lost the patients, because there was such an extensive oozing from the cortical surface itself, and the intracranial pressure would have killed the patient. I believe in those cases you are justified in total decompression, or triple decompression, if necessary, to relieve the tension. Usually these cases are in shock and are unconscious, and a simple trephining is attended with very little additional shock. In fact, to make an opening and slit the dura you really contribute very little in the way of shock in these cases. I have seen recoveries in cases of this kind from double or triple decompression to relieve tension. So I merely rise to bring out these points, advocating early surgery in these extreme cases.

With reference to compound comminuted fractures, my principle has been to treat these cases just as little as possible other than to clean up the tissues with iodin for some time. Perhaps the Dakin solution is better, but I have gotten good results from the use of iodin. In these cases trim away the jagged surface, place the member in a fracture box, with ordinary extension maintained, keep the member comfortable and where you can observe it, establish drainage of the fluid, and let the case alone. I have seen some splendid results from following that plan. I have in mind a gunshot wound tearing and lacerating the tibia and fistula, and tearing away a good portion of the muscular structure of the leg. It looked as if the limb would have to be amputated, but by using a simple fracture box, irrigating with iodin and establishing ordinary drainage, we have been able to get a splendid reproduction from nature's osteogenetic forces. The man has a useful limb.

DR. JERE L. CROOK, Memphis: There is one point that has not been brought out, and it is very pertinent to the treatment of ununited fractures. I remember very well a noted surgeon who, at a meeting of the Southern Mdical Association at Richmond, brought up the point that a great many cases that were operated on for ununited fractures would have made a perfect recovery if the surgeon had exercised a little ingenuity and patience, and if the patient himself had more patience with us, and this was Dr. Norris, of Houston, Tex. His experience coincides with mine. He advocated a form of brace which he made out of plaster of Paris, getting the patient up and on his feet. The case was one that the fracture turned the ankle in. I have had three cases like that which were cured, and the fracture united with the same brace. I used the same brace on two patients who could not afford to have a brace made. In two of these cases the compound fracture was very extensive. In one case three inches of the tibia came away piecemeal, and it looked for two or three weeks as if the patient would lose the limb. That was the first case on which the brace was used, and the brace enabled me to save the man's leg. The brace was fitted to the next patient, a drunken painter, who sustained a compound fracture. At the end of eight weeks, when I removed the cast, I found no union of the fibula or tibia. The cast was modified to suit his leg, and after two months the cast was removed and perfect union found to have taken place, combined with the open air treatment and the vis medicatrix naturae. A third patient, a negro, with ununited fracture of the tibia, made a perfect recovery by simply using that same brace and having him walk on his leg. The principle is simple and known to all, and that is, the irirtation engendered by the use of the limb in walking, supported by the brace in order that there may not be displacement of the fragments—that that exercise and mobility of the fragments of bone engenders a sufficient amount of reparative material between the bones to stimulate the osteogenetic function to the extent that a sufficient amount of callus is thrown out to secure final union.

DR. GEORGE H. PRICE, Nashville: I wish to make a few remarks on the subject of eye injuries reported in this paper. It so happens that I have been connected with the work of that particular department through Dr. Eve, and Dr. Eve called attention to this very important fact—namely, that for the past two years nearly the machine shops, from which the greater portion of this material is drawn, have insisted that the men while at work in using grinding machines, or hammers, clipping machines, use protectors for this purpose. Prior to the introduction of these methods, known as safety methods, in the roundhouses and machine shops, and on the roads, where it is necessary, there were a large number of eye injuries, and many of these injuries were serious, so much so that now and then a patient lost an eye. A number of these apparently slight injuries to the eye result seriously if they are not attended to promptly; but the introduction of safety methods—namely, wearing protectors, made out of heavy glass—has materially lessened the number of accidents. It will not do to use celluloid where you have fire going on because it is inflammable, but you can use mica or heavy glass. Prior to the methods now in use in the Chattanooga shops, the workmen were constantly liable to serious injuries to the eye. This became very manifest when they introduced a hood made out of strong material with the front made out of asbestos. A window was put into this, and where they were using acetylene gas welding, they introduced a strong heavy red glass for the purpose of cutting down the actinic rays of light. When these are not used, these welders during the process of welding would throw off myriads of small globular particles. After a few hours' use only, these sparks or small particles of steel all around became imbedded in the eye. With eye protectors the men could watch the process with impunity, but if they took off the eye protectors and did not step back from the machine some distance before the welding process was undertaken, they were more liable to injure their eyes. These protectors protected these men against a large number of seriou sinjuries.

The most common sources of seriou sinjuries of the eye in railroad shops and in the yards arose form cutting tubes from chipping either with cold chisels held in the hand or with heavy cold chisels held at arm's length. When the particles strike the eye, if it is unprotected, they are almost sure to eviscerate it.

DR. WILLIAM S. ANDERSON, Memphis: There is one point I would like to bring out, and that is in regard to the use of melted paraffin in these extensive burns we see in industrial injuries. As you all know, in dressing these cases there is a large amount of pain, especially when the dressing is removed. In the last few months it has been my experience to have had four such cases. The burns of the arms and of the face were of the first degree. I used melted wax in these cases, using a camel's hair brush to apply the wax, and it was surprising to see how rapidly relief was given. Where these patients suffer so much, if you apply the wax at 140 or 150 degrees temperature it will relieve them at once. Where a burn is weeping, we dry it by means of an electric fan, or we use an ordinary fan, and then have the wax extend over the raw surface over to the edge of the good skin. On that a thin film of cotton is applied to take care of the excessive absorption and over taht a bandage is applied. In one case taht was in the hospital six weeks, both legs were burned from the knee down; these burns were of the second degree. All first degree burns are cured, and it is remarkable to observe the character of the flexibility of the skin that is produced under paraffin wax.

DR. DUNCAN EVE, Nashville (closing): In regard to the use of the paraffin preparation, I agree absolutely with what Dr. Anderson has said. As a rule, we do not get the extensive burns for a week or ten days. We do a certain amount of grafting. Sometimes we use a dressing over the burn for forty-eight hours, depending upon the amount of drainage. In the last two or three months we have been carrying these cases along for a week or ten days, removing the dressing, then instructing the nurse to use dichloramine-T at certain intervals, and in that way the pain is diminished and healing takes place more easily.

With regard to Dr. Crook's three cases, I reported two like them. As a rule, when we get a fracture of the leg, one in both bones, compound or not, and it has been reduced, we apply a permanent dressing and allow six or eight weeks for union to take place. If there is nonunion at the end of that time, we take an X-ray picture, and if we find there is no cloudy condition we transplant. If we find a cloudy condition, the patient requires a heavy cast so as to bear weight on the limb. At the end of two or three weeks we take another X-ray picture, put on a lighter cast, and if at the end of six or eight weeks there is still no union, we take a picture, and if there is no cloudy condition, I think you are wasting time if you do not transplant.

CALCREOSE.

Calcreose is a creosote product, made in the United States of America by an American manufacturer. Clinicians have used it with good results in tre treatment of all forms of bronchitis and especially the bronchitis accompanying pulmonary tuberculosis. It has been taken for long periods of time, and in large doses, without causing gastric irritation or discomfort—no burning, no nausea. Calcreose is also valuable in gastrointestinal infections. Incidentally, the price of this product is far below that of other creosote products of foreign manufacture. The booklet, "Calcreose Therapeutics," which contains all information as to indications, dosage and method of administration, may be obtained by writing to the Maltbie Chemical Co., Newark, N. J.

NEW AND NONOFFICIAL REMEDIES.

Silver Proteinate Heyden.—Said to be identical with protargol (See New and Nonofficial Remedies, 1918, p. 362). Silver proteinate-Heyden must conform with the tests, and have the properties described under protargol. The Heyden Chemical Works, New York (Jour. A. M. A., Aug. 17, 1918, p. 534).

Chloramine-T, Squibb.—A brand of chloramine-T which complies with the New and Nonofficial Remedies standards. For a description of the action, uses, dosage and chemical and physical properties of chloramine-T, see New and Nonofficial Remedies, 1918, p. 156. E. R. Squibb & Sons, New York.

Chloramine-T Surgical Paste—Squibb.—It contains chloramine-T, 1 gm., in 100 gm. of a base composed approximately of sodium stearat, 15 per cent, and water, 85 per cent. E. R. Squibb & Sons, New York.

Chloramine-T Tablets—Squibb, 4.6 Grains.—Each tablet contains chloramine-T, 4.6 grains. E. R. Squibb & Sons, New York.

Dichloramine-T, Squibb.—A brand of dichloramine-T which complies with the New and Nonofficial Remedies standards. For a description of the action, uses, dosage and chemical and physical properties, see New and Nonofficial Remedies, 1918, p. 157. E. R. Squibb & Sons, New York (Jour. A. M. A., Aug. 31, 1918, p. 745).

THE TOXIC EFFECTS OF ARSPHENAMIN.

Recent research suggests that the toxic effects sometimes obtained from the administration of arsphenamin may be caused by the use of an insufficient amount of alkali in preparing the arsphenamin solution for injection. J. Danysz found that solutions of arsphenamin and similar preparations prepared in the usual manner, but with a small amount of calcium biphosphate added, soon precipitated on exposure to air and that these precipitates are readily soluble in sodium hydroxid. His experiments seem to show that a similar precipitation occurs when arsphenamin is injected intravenously; that this precipitation is responsible for both the mild and the severe toxic reactions; and that this precipitation is the more likely to occur the smaller the amount of alkali used for preparing the solution. He reports, however, that a hyperalkaline solution, though less toxic when injected into the vein of rabbits than solutions containing less alkali, caused pain and that sometimes the vein became obstructed and later atrophied. Danysz also found that the toxic action of arsphenamin solutions was increased when the solutions were injected rapidly. Danysz also advises that small initial (vaccinating) doses should be given to establish tolerance before full doses are administered (Jour. A. M. A., Aug. 17, 1918, pp. 570 and 596).

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

NOVEMBER, 1918

EDITORIALS

TUBERCULOSIS IN TENNESSEE IN 1917.

In view of the fact that the tuberculosis death rate is almost certain to increase very perceptibly this year because of epidemic influenza, the figures showing the number of deaths from tuberculosis in Tennessee in 1917 are of peculiar interest at this time. These figures have just been compiled by the Bureau of Vital Statistics of the State Board of Health, the compilation having been greatly delayed because of the unusual demands made upon the office of the State Board of Health by reason of war conditions.

In the table which follows will be found the number of deaths by races for each county in the State and for each of the five largest cities, together with the death rates per 100,000 population for each group. Included in these figures are the deaths from all forms of tuberculosis. It will be seen that a total of 4,418 deaths from tuberculosis were recorded by the Bureau of Vital Statistics for 1917, of which 2,754 were of white and 1,654 of colored persons. In 1916 the total number of deaths recorded as due to tuberculosis was 4,124, and so it appears that there were 294 more deaths from this cause in 1917 than in the previous year. It is very probably true, however, that the difference is more apparent than real, and that the 1917 increase is due to improvement in vital statistics returns during the last year, both as to the numbers of death certificates filed and as to the completeness of the certificates. A gradual but steady improvement in the completeness of the information required on death certificates has been noted during the past year and it was, therefore, possible to classify all returns better and more accurately than in former years.

Of the 4,418 deaths from tuberculosis in 1917, only 402, or slightly more than 9 per cent, were due to tuberculosis in organs other than the lungs. Consumption produced 90.9 per cent of all deaths from this major cause. Of those who died from consumption, 2,448 were white, while 1,572 were colored.

In West Tennessee counties there were 1,351 deaths from consumption—551 whites and 800 colored. In Middle Tennessee 1,550 deaths from consumption were recorded, of which number 985 were white and 565 colored. In East Tennessee there were 1,119 deaths from consumption—912 whites and 207 colored.

The death rate per 100,000 population for the state shows an increase for 1917 over 1916, the rate for the whole state for 1917 being 191.7, as against 180.2 for 1916. Two counties, Robertson and Smith, have rates above 300, while thirty-six counties show death rates above that for the state as a whole. Thirty-five counties have reduced the tuberculosis death rates for 1917, four are found with the same rate as in 1916, while fifty-seven counties have higher tuberculosis death rates for 1917 than for 1916. It is a fact that in many of the counties showing increased rates that vital statistics registration was more complete in 1917 than in 1916; on the other hand, it is also true that no improvement in registration was to be noted in some of the counties in which a reduced death rate is shown for 1917. Careful study of the statistics relative to tuberculosis in Tennessee forces the conclusion that little headway is being made in combatting this most fatal of all communicable diseases in our state. Moreover, there is little hope, in the minds of those who know the situation, that much headway will be made against the ravages of tuberculosis in Tennessee until the state itself shall adopt and develop a definite policy for the control of tuberculosis. Whatever plan is finally adopted must have most liberal financial support and must be so developed that each county shall carry its part of the load.

The great outstanding fact about tuberculosis in Tennessee is just this: For as many years as the State Board of Health has been able to establish the truth concerning the deaths from tuberculosis in the state, the annual number of such deaths has approximated 5,000. Until the tuberculosis problem is handled as it should be, by the state and by each county in the state, 5,000 persons are going to die each year. We cannot now do anything about the thousands that have died, 5,000 for each year for years past, but we can do something to help the 5,000 who are slated for death from tuberculosis next year and the 5,000 who are marked for the year after, and so on and on. Other states are bringing down their tuberculosis death rates; why should not Tennessee?

What will it take to successfully combat tuberculosis in this state? A definite, comprehensive state plan, with central direction and control. Hospitals established and maintained by individual counties or groups of counties are necessary, but cannot do the job for the simple reason that only a very small part of the tuberculous population can be hospitalized. A well-financed and far-reaching work of education of the masses must be carried on, but propaganda will not do the job, because much of such effort will be absolutely wasted, much more will accomplish only superficial and evanescent results, and only a relatively small part of such effort will yield measurable lasting results. The essential thing is to find tuberculosis where it is, to give real information and really helpful information to the individual with tuberculosis and to those who are associated with him and exposed to the danger of his infection. Some of the tuberculosis can be found through reports made to health officers, some more of it can be found through the work of independent organizations of various kinds, many cases will be located, as many have been already, by reports concerning discharged soldiers made by army surgeons to boards of health; but through none of these agencies nor through all of them combined will more than a relatively small part of all the tuberculosis in the state be found. Whatever scheme is devised for the control of tuberculosis in Tennessee must, if it is to accomplish much good, provide for an adequate corps of trained visiting nurses. Nurses going into the homes of the people can find the cases, can do more than can be done otherwise to get them under proper treatment, can do a great deal in helping to have the necessary treatment properly carried out, can, by word of mouth and by actual demonstrational methods, drive home and fasten the facts in the minds of the individual sick and those around him which they must have—the sick man to get well and protect others from his infection, and his associates to guard themselves against infection.

The essential factor in the successful treatment of tuberculosis is an early diagnosis, which can be made only if a good doctor makes a careful examination at the right time.

WEST TENNESSEE.

County.	No. Deaths White.	No. Deaths Colored.	Death Rate Per 100,000 Population.
Benton	17	1	**139.9
Carroll	36	20	*233.6
Chester	13	4	*187.0
Crockett	14	8	*197.1
Decatur	15	5	*198.0
Dyer	40	14	*176.4
Fayette	5	57	*202.1
Gibson	50	39	**205.7
Hardeman	19	28	**204.0
Hardin	12	5	* 96.9
Haywood	5	61	**249.5
Henderson	19	9	*164.4
Henry	27	30	*216.5
Lake	3	2	** 51.6
Lauderdale	14	25	**184.7
McNairy	16	3	***116.1
Madison	21	26	*199.0
Obion	36	20	*179.7
Shelby	29	132	**239.5
Tipton	18	27	***152.1
Weakley	52	15	*209.8
City of Jackson	18	23	*228.4
City of Memphis	132	280	*271.2
Total, W. Tennessee.	611	844	------

*Increase over 1916 rate.
**Decrease under 1916 rate.
***Same rate as in 1916.

MIDDLE TENNESSEE.

County.	No. Deaths White.	No. Deaths Colored.	Death Rate Per 100,000 Population.
Bedford	27	16	*189.7
Cannon	27	1	*258.6
Cheatham	11	10	*193.5
Clay	10	--	**105.0
Coffee	24	9	*210.7
Cumberland	8	--	* 79.4
Davidson	83	58	*277.5
DeKalb	31	1	*207.3
Dickson	22	13	*167.3
Fentress	6	--	* 71.4

Franklin	24	13	*179.8
Giles	31	38	**211.1
Grundy	4	--	** 45.9
Hickman	8	9	*102.0
Houston	8	1	**144.5
Humphreys	21	4	*203.1
Jackson	14	4	**119.7
Lawrence	27	2	*151.4
Lewis	5	1	* 83.5
Lincoln	32	2	**235.4
Macon	30	2	*202.5
Marshall	20	13	**195.6
Maury	45	32	*215.0
Montgomery	35	41	**225.7
Moore	3	--	** 62.4
Overton	23	--	**130.0
Perry	13	--	*147.3
Pickett	3	--	** 58.9
Putnam	29	4	**125.5
Robertson	48	33	*314.1
Rutherford	34	43	**231.9
Smith	33	13	*301.8
Stewart	25	2	*181.6
Sumner	46	24	*273.2
Trousdale	11	6	*289.3
Van Buren	2	--	** 71.8
Warren	32	9	**246.6
Wayne	13	1	*116.0
White	23	4	*165.2
Williamson	25	20	*185.8
Wilson	49	27	*299.2
City of Nashville	121	115	*199.7
Total, M. Tennessee	1086	571	------

*Increase over 1916 rate.

**Decrease under 1916 rate.

EAST TENNESSEE.

County.	No. Deaths White.	No. Deaths Colored.	Death Rate Per 100,000 Population.
Anderson	22	1	**123.7
Bledsoe	5	1	*** 94.8
Blount	36	11	*213.8
Bradley	27	6	*196.9
Campbell	20	4	* 69.0
Carter	29	3	**130.7
Claiborne	18	2	** 78.2
Cocke	35	10	*229.8
Grainger	28	1	***208.8
Greene	71	4	*238.5
Hamblen	22	6	**195.4
Hamilton	96	27	*242.5
Hancock	8	--	** 74.1
Hawkins	39	4	*182.3
James	9	--	*172.7
Jefferson	14	7	**118.2
Johnson	13	2	* 99.4
Knox	81	8	*179.5
Loudon	17	4	**134.2
McMinn	42	6	*214.0
Marion	26	5	*155.4
Meigs	5	--	** 81.5
Monroe	23	2	**112.2
Morgan	12	1	*101.3
Polk	15	--	* 93.0
Rhea	21	4	**154.2
Roane	38	3	*178.6
Scott	8	--	** 55.9
Sequatchie	3	--	** 61.9
Sevier	17	1	** 80.0
Sullivan	55	1	*183.9
Unicoi	11	--	*134.3
Union	23	--	*201.5
Washington	64	7	*211.2
City of Chattanooga	57	74	**212.7
City of Knoxville	57	34	**153.9
Total, E. Tennessee	1067	239	------

*Increase over 1916 rate.

**Decrease under 1916 rate.

**Same rate as in 1916.

MEMBERS OF TENNESSEE STATE MEDICAL ASSOCIATION FOR 1918.

Anderson County: Drs. E. Dickson, W. B. Campbell, J. M. Cox, Coal Creek; J. H. Gammon, Briceville; S. B. Hall, H. D. Hicks, Clinton; J. T. Hayes, Oliver Springs; A. T. Slemmons, Edgemoor; C. H. Kyker, Oliver Springs; W. H. Eblen, Petros.

Bedford County: Drs. W. H. Avery, T. J. Coble, Shelbyville; J. T. Conditt, Flat Creek; J. H. Dyer, Wartrace; J. K. Freeman, Bell Buckle; D. C. Haggard, Unionville; G. E. Horton, Wartrace; Capt. S. S. Moody, M. C. U. S. A., No. 26 Field Hospital, A. P. O. 740, A. E. F.; G. W. Moody, T. R. Ray, W. T. Robinson, Shelbyville; R. E. Shelton, Lynchburg; J. P. Taylor, Wartrace; T. H. Woods, Bellbuckle; Jas. L. Morton, Shelbyville; G. L. Landis, Unionville.

Blount County: Drs. C. F. Crowder, S. S. Kitrell, F. A. Zoller, Maryville; B. E. Delozier, Townsend; J. A. McCulloch, R. L. Hyder, A. M. Gamble, E. L. Ellis, C. C. Vincent, Maryville; W. A. Bishop, Alcoa; Jas. M. Waters, Walland; J. S. Tipton, Friendship; G. T. Hanah, J. D. Norton, Maryville.

Campbell County: Drs. L. M. Scott, William Gaylor, Jellico; S. D. Queener, W. R. Irish, Jacksboro; J. P. Lindsay, Pruden; F. A. McClintock, Newcomb; J. S. Sharp, U. S. Carden, L. C. Myers, La Follette; G. M. Richmond, Jellico.

Carroll County: Drs. T. W. Thomas, Cedar Grove; H. T. Collier, A. I. Dennison, J. H. Williams, J. D. Todd, McKenzie; G. C. Bryant, McLemoresville; L. L. Duncan, L. R. Trevathan, R. L. Compton, Hollow Rock; B. C. Dodds, J. B. Cox, Huntingdon; J. L. Doodall, Whitthorne; E. W. Hillsman, T. B. Collins, Trezevant; R. A. Douglas, Huntingdon; H. D. McGill, Yuma; S. W. Huffman, McKenzie; Tyler Cox, Westport; L. D. Murphey, Buena Vista; Geo. H. McCain, Trezevant.

Chester County: Drs. J. R. Carroll, W. C. Brown, Henderson; J. D. Anderson, J. U. Kent, Enville; W. T. Buck, J. L. White, W. H. Wilson, Henderson; B. H. Brown, Luray; H. T. Pitts, Enville; L. G. Smith, Jack's Creek.

Cocke County: Drs. R. C. Smith, J. F. Stanberry, T. E. Burnett, C. T. Burnett, J. Mc. Atchley, J. O. Woods, J. E. Hampton, Newport; C. W. LaRue, W. T. Mathes, Parrottsville; E. E. Northcutt, Newport; J. P. Shields, Crestmount, N. C.

Coffee County: Drs. R. L. Dossett, Tullahoma; J. M. Ward, Manchester; J. A. Mitchell, J. Leon Fields, J. E. Powers, Arch E. Ray, Tullahoma; E. P. Vaughan, J. K. Farris, Manchester; M. H. Farrar, Horace Farrar, Hillsboro.

Crockett County: Drs. S. McDonald, Bells; C. T. Love, Alamo; W. T. Redmond, Crockett Mills; J. H. Jones, Alamo; W. G. Spence, Halls; J. L. Powell, Friendship.

Cumberland County: Drs. E. W. Mitchell, W. A. Reed, V. L. Lewis, Crossville.

Davidson County: Drs. W. B. Anderson, H. K. Alexander, Doctors' Bldg; S. M. Bloomstein, 142 7th Ave., N.; Perry Bromberg, Jackson Bldg.; O. N. Bryan, Doctors' Bldg; Paul DeWitt, Hitchcock Bldg.; L. W. Edwards, Doctors' Bldg.; A. A. Eggstein, Vanderbilt Hospital; Duncan Eve, Sr., Duncan Eve., Jr., Eve Bldg.; W. O. Floyd, Doctors' Bldg.; R. E. Fort, 209 7th Ave., N.; W. S. Farmer, Cetral Hospital for Insane; J. F. Gallagher, Jackson Bldg.; McPheeters Glasgow, 142 7th Ave., N.; J. D. Goodwin, 220 Capitol Blvd.; R. W. Grizzard, 6th Ave., N., and Union St.; J. W. Handly, Independent Life Bldg.; W. E. Hibbitt, City Health Office; A. N. Hollabaugh, 5th Ave., S., and Ash; R. L. Jones, City Health Office; J. Howard King, 142 7th Ave., N.; J. M. King, Doctors' Bldg.; J. J. Lentz, Davidson County Asylum; J. W. Maddin, 149 4th Ave., N.; M. C. McGannon, Doctors' Bldg.; P. G. Morrissey, 142 7tr Ave., N.; S. L. Odell, St. Louis, Mo.; D. R. Pickens, T. G. Pollard, Doctors' Bldg.; G. C. Savage, 165 8th Ave., N.; H. H. Shoulders, State Capitol; Irving Simons, 220 Capitol Blvd.; Herman Spitz, Doctors' Bldg.; J. W. Stevens, Murfreesboro Pike; C. C. Sullivan, 8th Ave., N., and Commerce; Milton Tharp, 209 7th Ave., N.; C. F. Thomason, Camp Greenleaf, Ft. Oglethorpe, Ga.; L. B. Watkins, 408 10th St., West Nashville; Olin West, 601 Cedar St.; O. H. Wilson, Jack Witherspoon, Doctors' Bldg.; Hilliard Wood, Independent Life Bldg.; C. N. Cowden, Hitchcock Bldg.; J. P. Crawford, 8th Ave., N., and Commerce; E. B. Cayce, Hitchcock Bldg.; W. F. Fessey, City Hospital; R. A. Harrington, E. L. Roberts, Jackson Bldg.; W. D. Sumpter, 8th Ave., N., and Commerce; C. L. Hill, 142 7th Ave., N.; R. W. Dake, 218 7th Ave., N.; E. A. Sutherland, Rural Sanitarium, Madison, Tenn.; W. D. Haggard, John A. Witherspoon, Doctors' Bldg.; Wm. Litterer, Litterer Laboratory; Geo. W. Hale, Hitchcock Bldg.; Jno. A. Gaines, Jackson Bldg.; J. T. Altman, Eve Bldg.; W. J. Morrison, 159 8th Ave., N.; S. S. Crockett, Jackson Bldg.; G. F. Aycock, 1000 Gilmore Ave.; R. A. Barr, 800 19th Ave., S.; R. W. Billington; Robt. R. Brown, 1506 Broad; Lucius E. Burch, Porter Pike; James Brew, Jr., 804 Russell St.; Jere W. Caldwell; M. L. Connell; A. S. Dabney, Maxwell House; W. C. Dixon, 30 Middleton Ave.; F. B. Dunklin, 706 Church St.; H. M. Francisco; E. M. Fuqua; T. B. Givan, 2007 White Ave.; A. W. Harris, Doctors' Bldg.; G. A. Hatcher; W. G. Kennon; J. H. Lassiter, 818 Boscobel; John M. Lee; W. M. McCabe; W. L. McCaleb; T. D. McKinney; J. O. Manier, 110 Belcourt; Eugene M. Orr; J. P. Schell; Larkin Smith, 116 8th Ave., S.; R. E. Sullivan; E. L. Scale; H. M. Tigert, Nolensville Pike; Harlin G. Tucker; W. B. Ward; Geo. P. Williamson; W. H. Witt, 2109 Hayes; W. E. Reynolds, Eve Bldg.; T. H. Young, Hitchcock Bldg.; A. G. Nichol, Jackson Bldg.; L. J. Caldwell, Elberta Ave.; Bate

Dozier, 8th Ave. and Monroe St.; W. H. Tanksley, 8th Ave., N.; S. T. Ross, 151 7th Ave., N.; Harrington Marr, Eve Bldg.; M. H. Cullom, Hitchcock Bldg.; Herschell Ezell, Doctors' Bldg.; S. R. Teachout, Eve Bldg.; G. W. Hubbard, Meharry College; Jno. E. Hall, Eve Bldg.; Louis E. Markel, Box 206, Hopewell, Va.; Margaret O. Davis, 172 8th Ave., N.; W. E. McCampbell, 800 Woodland St.; H. F. Friedman, Jackson Bldg.; C. A. Robertson, Ridgetop, Tenn.; W. A. Bryan, Doctors' Bldg.; T. A. Whitfield, Jackson Bldg.; Hugh Barr, Eve Bldg.; J. P. Keller, 142 7th Ave., N.; E. L. Bishop, 601 Cedar St.; J. H. Preston, 4401 Alabama Ave.; W. B. Lunsford, L. E. Trent, Central Hospital; C. W. Brown, 5th and Monroe; E. M. Sanders, 151 7th Ave., N.; Oren A. Oliver, 349 Doctors' Bldg.; W. R. Sifford, Independent Life Bldg.; A. L. Sharber, 142 7th Ave., N.; Alberto Hudson, Jackson Bldg.; J. R. Tarpley, Gallatin Pike; C. G. Griffin, 4th Ave., S., and Ash St.; Geo. H. Price, John W. Moore, Eve Bldg.; W. B. Lee, Jackson Bldg.; Hazel Padgett, Hitchcock Bldg.; D. R. Neil, Jackson Bldg.; Frank P. Head, 4300 Charlotte Pike; W. A. Oughterson, Doctors' Bldg.; R. Stonestreet, Hitchcock Bldg.; W. A. Horan, 913 First St., N.; M. G. Buckner, E. A. Sayers, Jackson Bldg.; A. B. Thach, Eve Bldg.; C. E. Brush, Doctors' Bldg.; S. S. Briggs, Fifth Ave. and Union St.; R. H. Perry, Jackson Bldg.; C. R. Crutchfield, Doctors' Bldg.; A. E. Douglas, Highland Sanitarium; R. H. Miller, Vanderbilt Hospital; E. L. Gleaves, 210½ 5th Ave., N.; L. E. Mogan, Los Angeles, Cal.; R. B. Bogle, Hitchcock Bldg.; W. G. Black, 1505 Church St.; F. B. Hulme, 27 Lindsley Ave.; D. B. P'Poole, Doctors' Bldg.

Decatur County: Drs. J. G. McMillan, J. L. McMillan, T. Rogers, J. M. Crider, Decaturville; A. G. Hufstedler, R. W. Fisher, Parsons; D. E. Hill, Parsons, R. F. D.; R. A. Whitaker, Perryville; Watt Yeiser, S. F. Hinson, Linden; H. E. Martin, Sugar Tree.

Dickson County: Drs. W. S. Scott, Dickson; J. E. Mathis, Burns; A. C. Dickson, Vanleer, R. F. D.; L. F. Loggins, Cumberland Furnace, R. F. D.; J. C. Guerin, Slayden; A. G. Castleman, H. E. Larkins, Charlotte; H. C. Guerin, W. W. Walker, Hartwell Weaver, Dickson; J. A. Venable, White Bluff; W. A. Bell, O. R. M. C., Fort Oglethorpe, Ga.; H. P. Spencer, Burns; J. F. Hunt, Tennessee City, R. F. D.; C. M. Lovell, W. J. Sugg, Dickson; G. G. Cannon, Cumberland Furnace; J. A. Sugg, McEwen; D. C. K. Binkley, Denver; W. M. Cunningham, Cumberland Furnace.

Dyer County: Drs. S. R. Sharpe, Dyersburg; J. W. Crice, Mengelwood; E. T. Haskins, Newbern; T. F. Taylor, T. D. Rice, T. D. McDougall, P. E. Miller, Tigrett; A. H. Moody, E. H. Baird, O. D. Dulaney, J. P. Baird, R. L. Motley, D. L. Flanary, T. J. Walker, M. E. Rust, J. G. Price, C. A. Turner, E. LeRoy Wilkins, W. P. Watson, Dyersburg; J. D. Brewer, W. O. Sullivan, E. O. Cherry, Newbern; J. T. Freeman, Heloise; J. W. Myune, Newbern, R. F. D.; H. J. Strachan, Bogota; Luther Edwards, Finley; J. H. Green, Trimble; J. C. Balthrope, Newbern; J. A. Fowlkes, Dyersburg, R. F. D.; N. S. Walker, Dyersburg; C. T. Nash, Dyersburg, R. F. D. No. 1; W. E. Williamson, Finely; W. W. Holland, J. B. Perry, Dyersburg, R. F. D.

Fayette County: Drs. C. W. Robertson, J. A. Albright, A. O. Boals, J. O. Boals, H. C. Moorman, Somerville; Henry Smith, J. E. Parkes, Williston; O. H. Cribbins, C. N. Crook, Moscow; Geo. Brinkley, Whiteville; W. L. Boswell, Moscow; L. D. McAuley, H. L. Armstrong, Oakland.

Franklin County: Drs. C. W. Inge, Cowan; M. W. Sutton; Huntland; M. M. Huling, Jno. P. Grizzard, Winchester; Guilford Wright, Cowan; J. D. McCord, Winchester, Route 6; F. W. Smith, Decherd; G. W. Piper, Alto; A. L. Walker, Estill Springs; B. W. McCrary, Stevenson, Ala.

Gibson County: Drs. G. W. Oliver, W. B. Keeton, Medina; Jno. Jackson, Dyer; W. L. Medling, Med. Dept. 1st Prov. Development Reg., Camp Sevier; Sid Thompson, G. W. Penn, Humboldt; A. H. Gray, Kenton; J. E. Adkisson, Merkel, Tex.; J. H. Rozzell, R. H. Hunt, Gibson; A. T. Clopton, B. D. Caldwell, E. C. Caldwell, Milan; F. E. Wyatt, Yorkville; F. W. Jones, S. E. Walker, Bradford; M. D. Ingrow, Eaton; J. C. Moore, Trenton, R. F. D.,

E. C. Matthews, W. C. McRee, T. M. Cochran, B. T. Bennett, Trenton; A. A. Donaldson, Brazil; B. S. Penn, Humboldt; C. T. Tyree, Trenton; C. B. A. Turner, Neboville.

Giles County: Drs. C. A. Abernathy, W. D. Abernathy, A. M. Allen, J. K. Blackburn, Pulaski; L. L. Gilbert, Prospect; G. C. Grimes, Pulaski, Route No. 1; R. N. Herbert, Aspen Hill; J. A. Javue, Pulaski; A. J. Lancaster, G. W. Lancaster, R. R., Pulaski; J. W. Johnson, Frankewing; Joe B. Wright, Lynnville; Wendel Baugh, Elkton; C. B. Crittenden, Pulaski; R. H. Denham, Lynnville; A. W. Dean, Route 3, Pulaski; W. F. Copleand, Campbellsville; J. E. Baugh, Elkton; W. H. Cole, Minor Hill, B. H. Woodward, Ardmore.

Green County: Drs, J. B. Bell, R. F. D., Greeneville; S. T. Brumley, Greeneville; W. M. Bright, R. F. D., Chuckey; J. Carson Moore, Jeraldstown; F. C. Britton, Greeneville, R. F. D. 2; I. B. Brown, Mosheim, R. F. D.; E. M. Bell, Greeneville, R. F. D.; W. H. Hawkins, Greeneville; T. B. Hughes, Afton; J. S. J. Wilhoit, Afton, R. F. D.; Chas. L. Boyd, C. P. Fox, Greeneville; Chas. Y. Bailey, Baileytown; M. A. Blanton, Baileytown, R. F. D.; S. W. Woodward, Greeneville; W. A. Carter, Bull's Gap, R. F. D.; R. O. Huffaker, Greeneville, R. F. D.; J. G. Hawkins, Baileytown, R. F. D.; E. M. Myers, Bulls' Gap; H. A. Simpson, Baileytown, R. F. D.; Lloyd Dyer, O. R. M. C., Camp Gordon, Atlanta, Ga.; J. S. Holt, G. S. Hays, J. F. Lane, H. M. Taylor, Greeneville; E. A. Jeffers, Baileytown.

Grundy County: Drs. G. B. Alder, Coalmont; W. C. Hembree, Douglas Hayes, W. P. Stone, Tracy City; L. A. Carden, Pelham; Hy Lockhart, Coalmont; David H. Bryan, Tatesville.

Hardin County: Drs. G. C. Morris, W. E. McDougal, J. K. Barlow, E. B. Walker, C. F. Gilbert, O. H. Williams, Savannah; L. C. Smith, Morris Chapel; R. L. Douglas, Lutts; Will Beckham, Olive Hill; L. A. Parker, Saltillo.

Hamblen County: Drs. G. W. Smithers, Rutledge; W. G. Ruble, J. T. Neilson, D. E. Shields, C. T. Carroll, Jr., F. F. Painter, P. L. Henderson, L. H. Milligan, S. M. Ryburn, J. F. Campbell, Morristown; J. W. Pierce, Tate; I. D. Walker, Alpha; G. P. Bingham, H. G. Pangle, Russellville; Capt. W. E. Howell, Camp Pike, Ark.

Hamilton County: Drs. M. A. Meacham, Hamilton National Bank Bldg.; J. B. Haskns, Van Deman Bldg.; S. I. Yarnell, 112½ E. 7th St.; Bernard Aronchik, Carlisle Apts.; E. Dunbar Newell, 707 Walnut St.; H. P. Larimore, T. E. Abernathy, Volunteer State Bldg.; Frank Trester Smith, 826½ Market St.; J. C. Brooks, Volunteer State Bldg.; G. Victor Williams, S. S. Marchbanks, Van Deman Bldg.; H. L. Fancher, James Bldg.; Edw. T. Newell, 707 Walnut St.; Geo. R. West, 10 W. 8th St.; F. J. Hackney, Hamilton National Bank Bldg.; C. H. Gurney, 4603 Ave., N; N. J. Minter, Volunteer State Bldg.; J. Webster Horton, James Bldg.; W. A. Applegate, 1300 Pennsylvania Ave.; J. H. St. John, Army Med. School, Washington, D. C.; H. Q. Fletcher, James Bldg.; W. M. Orr, Alton Park; L. T. Stem, East Lake; E. C. Anderson, 726½ Market St.; J. W. Macquillan, Hamilton National Bank Bldg.; W. W. Dickey, 707 Walnut St.; E. W. Patten, Hamilton National Bank Bldg.; J. C. Cunningham, Hixon, Tenn.; W. H. Cheney, 710 Georgia Ave.; Jno. B. Steele, Ambulance Co., No. 346 Camp Pike, Little Rock, Ark.; G. M. Roberts, Sixth Inf., Fort Oglethorpe, Ga.; Capt. Wm. J. Hillas, 117th Inf., Greenville, S. C.; J. D. L. McPheeters, Hogshead Apts.; Henry B. Smith, Cedar Grove, N. J.; Gunnar Sundstrom, 708 Union Ave.; Leopold Shumacher, 10 W. 8th Ave.; Stewart Lawmill, 602 Georgia Ave.; S. H. Long, Van Deman Bldg.; J. H. Barnett, 601 Duncan Ave.; J. C. Eldridge, Jr., East Chattanooga; S. F. Wohl, James Bldg.; E. H. Adkins, Volunteer State Bldg.; P. D. Sims, City Hall; W. A. Dietrich, Lookout Mountain; M. Frank Turney, 48 Regina St., San Antonio, Tex. (dec.); D. K. Summers, (dec.); E. M. Harrison; A. T. Ingalls, Flat Iron Bldg.; C. Holtelaw, 213 E. 28th St.; J. L. Bibb, Hamilton National Bank Bldg.; M. M. De Cobbert, Deer Lodge, Tenn.; B. S. Wert, E. E. Reisman, Van Deman Bldg.; W. M. Bogart, North Chattanooga; H. Clay Long, Governors' Hospital, New York City; Y. L. Abernathy, 404 Walnut St.; W. G. Bogart, 518 Georgia Ave.; Stanton H. Barrett, City Hall; J. H. Taylor, Hamilton National Bank Bldg.; Herman Renner, Volunteer State Bldg.; B. L.

Jacobs, Erlanger Hospital; R. B. Watson, North Chattanooga; J. B. McGhee, 124½ E. Main St.; L. E. Boone, East Chattanooga; H. O. Null, Dodds and Chamberlain Aves.; Jno. B. Vigle, Hamilton National Bank Bldg.; Jas. H. Atlee, 219 Oak St.; J. J. Gee, Loveman Bldg.; J. Lee Goodwin, Tazewell, Tenn.; Wm. E. Anderson, James Bldg.; J. S. B. Woolford, 62 Georgia Ave.; E. B. Wise, 7 W. 8th St.; E. M. eDlay; H. M. Barker, Flnitstone, Ga.; D. C. Shelton, Jasper, Tenn.; W. J. Winter, Volunteer State Bldg.; B. F. Travis, James Bldg.; K. D. Davis, Loveman Bldg.; Benz S. Allen, Van Deman Bldg.; T. N. Eblen, Tyner, Tenn.; A. B. Woolner, N. May Waite, Temple Court; C. A. Skelton, St. Elmo, Tenn.; A. T. Peay, 632½ Market St.; J. H. Revington, Van Deman Bldg.; F. L. Wood, Cedar Grove, Ga.; E. B. Anderson, 7 W. 8th St.; G. P. Haymore, 602 Georgia Ave.; E. H. Byrd, East Chattanooga; Dowling C. Morris, corner Main and Market; M. M. Martisnon, 632½ Market St.; N. C. Steele, Hamilton National Bank Bldg.; W. A. Banks, 400 Chamberlain Bldg.; Geo. R. Walker, 202 N. Dodds Ave.; J. M. Selden, Hamilton National Bank Bldg.; Jno. L. Seay, Whitwell, Tenn.; Albert C. Broyles, Graysville, Tenn.; J. McC. Hogshead, 602 Georgia Ave.; O. C. Godsmark, 826½ Market St.; W. E. Lindsay, St. Elmo, Tenn.; P. R. Hysinger, East Chattanooga; J. F. Hager, Alton Park, Tenn.; Jas. E. Green, 224½ E. Main St.; R. M. Colmore, Volunteer State Bldg.; S. A. Fowler, 2601 Cowart St.; G. Manning Ellis, 211 E. 8th St.; Bayard Sullivan, James Bldg.; J. M. Broyles, East Lake; A. W. Boyd, Loveman Bldg.; Wm. F. Lake, Erlanger Hospital; Ebb. C. Johnston, 213 E. 8th St.; Geo. P. Wilbanks, Rossville, Ga.; R. C. Currey, South Pittsburg, Tenn.; D. N. Williams, Van Deman Bldg.; N. S. Riteihe, W. L. Able, Daisy; A. R. Hair, Soddy; P. M. Madison, Chickamauga; Fred B. Stapp, Chattanooga; J. E. Hanna, 12 Read Ave.; L. P. Brooks, Van Deman Bldg.; Willard Steele, Hamilton National Bank Bldg.; O. B. Wunehow, 114 W. 9th St.; Jos. W. Johnson, Volunteer State Bldg.; Miles D. Davis, Loveman Bldg.; W. F. McManus, 100 Glover St.

Hardeman County: Drs. Harry Jones, Hickory Valley; C. L. Frost, Middleton; G. B. Curry, Toone; R. W. Tate, Bolivar; J. D. Sassar, Sr., Middleton; George Dorris, Bolivar; L. Pope, Hickory Valley; J. B. Bond, E. W. Cocke, Bolivar; A. E. Black, Toone; W. H. Siler, Montezuma.

Haywood County: Drs. G. C. Mulheron, Brownsville, R. F. D.; J. S. Patton, Brownsville, R. F. D. No. 1; E. R. Mulheron, G. T. Scott, A. H. Sorrell, J. T. Allen, Brownsville; F. P. Hess, Jones; J. L. Edwards, Brownsville.

Henderson County: Drs. A. L. Waller, Juno; Jno. T. Keeton, Sardis; R. L. Wylie, Scott's Hill; W. T. Watson, Lexington; J. C. Stinson, Reagan; S. T. Parker, Lexington; R. H. Milun, Chesterfield; J. W. Hendrix, Parsons; C. H. Johnston, J. P. Joyce, Lexington; J. H. England, Luroy; C. E. Bolin, D. W. Bradfield, Wildersville; J. N. Smith, Cuba Landing; M. P. Boyd, Juna; R. T. Keeton, Scott's Hill; R. H. Davidson, Lexington; W. I. Howell, Wildersville; J. M. Arnold, Geo. A. Brandon, W. F. Huntsman, Lexington; J. P. Mackey, Sardis; J. E. Graves, Juna; Jessie F. Goff, Chesterfield; E. G. Maxwell, in France; E. E. Waller, Juno.

Henry County: Drs. A. Abernathy, Erin; R. A. Grainger, M. C. Wiggins, Paris; E. Plotkin, Britt's Landing; R. J. Perry, C. H. Johnson, A. A. Oliver, G. R. McSwain, J. H. McSwain, I. A. McSwain, G. T. Abernathy, Paris; Chas. W. Rodgers, Como; H. Veltman, Paris; E. Goyer, Jackson.

Hickman County: Drs. C. V. Stephenson, J. S. Beasley, Centerville; J. S. Webb, Goodrich; R. P. Beasley, Pinewood; J. W. Thompson, Centerville.

Jackson County: Drs. C. E. Reeves, Gainesboro; F. B. Clark, Haydenburg; C. C. Fowler, Gainesboro; N. M. McCoin, R. 1, Gainesboro; J. D. Quarles, Whitleyville; Henry P. Loftis, R. C. Gaw, Gainesboro; F. O. Cornwall, Bagdad.

Jefferson County: Drs. Ben E. Cline, Straw Plains; N. E. Doane, New Market; N. M. Dukes, Straw Plains; G. M. Kinder, W. F. King, Jefferson City; G. D. Lequire, Rutledge, R. F. D.; Wm. E. Roberts, Talbott's; W. H. Taylor, New Market; H. L. Tarr, Jefferson City; T. R. French, Dandridge, R. F. D.; D. J. McCarter, R. F. D., Dandridge; P. A. Tinsley, Dandridge; W. T. Davis, White Pine; J. I. Huggins, Dandridge.

Knox County: Drs. A. L. Rule, Cherokee Bldg.; L. L. Sheddan, Burwell Bldg.; W. T. McCreary, Keyston Bldg.; M. M. Copenhaver, Lonsdale; H. E. Christenberry, Holston Bank Bldg.; M. C. Wright, Empire Bldg.; O. W. Hill, Holston Bank Bldg.; S. D. Acuff, Central and Scott Sts.; J. D. Weaver, Arnstein Bldg.; L. A. Blalock, Deaderick Bldg.; J. C. iHll, Eastern Hospital for Insane, Bearden; W. F. Christenberry, E. A. Guynes, Lonsdale; S. R. Miller, 406 West Church St.; V. C. Lane, Keystone Bldg.; M. S. Roberts, Arnstein Bldg.; Sam Hunt, 406 W. Church St.; W. S. Nash, 611 Walnut St.; M. G. Herrell, Powell Station; W. W. Potter, Cherokee Bldg.; C. B. Jones, Holston Bank Bldg.; J. J. Cullinan, Eastern Hospital for Insane, Bearden; D. H. Williams, 613 Walnut; W. A. Greer, Empire Bldg.; L. A. Haun, Holston Bank Bldg.; L. Evadell Newell, 720 13th St., N. W., Washington, D. C.; B. V. Howard, 209 W. Church St.; J. V. Henderson, Holston Bank Bldg.; A. B. Peek, American Bank Bldg.; W. A. Catlett, W. P. Atchley, Holston Bank Bldg.; H. T. McClain, 2600 N. Central Ave.; H. L. Carorll, Althea Bldg.; C. J. Carmichael, 612 Walnut St.; V. D. Hollaway, 609 Walnut St.; Olin Rogers, Holston Bank Bldg.; Walter Luttrell, McTownlee Bldg.; E. R. Zemp, 617 Walnut St.; Reese Patterson, 419 W. Church St.; A. G. Kyle, Deaderick Bldg.; J. J. Ellis, Empire Bldg.; R. L. McReynolds, Holston Bldg.; Wm. Delpench, 818 McGhee St.; B. B. Cates, 508 W. Clinch Ave.; S. F. Casenburg, McTownlee Bldg.; W. R. Cochrane, 719 Walnut St.; J. I. A. West, Arnstein Bldg.; C. F. Mooney, Keystone Bldg.; A. R. Garrison, Byington, Tenn.; W. S. Austin, 423 W. Church St.; Chas. Huff Davis, 313 Walnut St.; Robt. Patterson, 509 W. Church St.; C. E. Ristine, 713 Prince St.; J. B. Thielen, Holston Bank Bldg.; H. J. Kelso, 425 W. Church St.; S. B. Peters, McTownlee Bldg.; M. H. Lee, Bearden, Tenn.; W. G. Casenburg, 629 N. Gay St.; S. H. Hodge, 695 Walnut St.; R. V. DePue, Eastern Hospital for Insane, Bearden; A. G. Kern, 617 Walnut St.; E. H. Ford, Holston Bank Bldg.; W. D. Richmond, Empire Bldg.; W. S. Ogle, McTownlee Bldg.; V. C. Dail, Holston Bank Bldg.; W. L. Wallace, 1021 N. Broadway; G. W. Booker, 309½ W. Church St.; F. L. Young, Young Bldg.; C. M. Capps, Deaderick Bldg.; Wm. Bower, Holston Bank Bldg.; J. H. Kincaid, 421 W. Church St.; J. A. Sisk, Empire Bldg.; C. B. Evans, Lonsdale, Tenn.; C. W. Rain, Empire Bldg.; W. H. L. White, Young Bldg.; W. N. Lynn, Cherokee Bldg.; R. P. Oppenheimer, 417 Church St.; J. F. Massey, Fountain City; J. R. Huffaker, Dedaerick Bldg.; W. C. McCammon, Arnstein Bldg.; Harley Acuff, N. Central Ave.; Herbert Acuff, Inskip, Tenn.; Hugh W. Allen, 609 Broadway; T. R. Jones, 601 Walnut St.; R. B. Layman, 829 N. 5th Ave.; V. E. Massey; H. H. McCampbell, 614 Walnut St.; T. P. Miller; P. E. McNabb; B. L. Ogle; R. H. Newman; R. M. Young; Frank Wiggins; N. A. Williamson, 503 Arnstein Bldg.; P. N. Ogle, 615 Holstein Bank Bldg.; G. L. Coffey, 82 S. Gay St.; A. J. Cattrell, Holston Bank Bldg.; R. C. Brittain, 907 Burwell Bldg.; Jas. E. Acker, McTownlee Bldg.; S. P. Tillery, Holston Bank Bldg.; B. R. McBath, Arnstein Bldg.; H. E. Goetz, Empire Bldg.; A. L. Foster, Correyton, Tenn.; J. B. Parker, Inskip, Tenn.; A. B. Anderson, Holston National Bank Bldg.; T. O. McCallie, McTownlee Bldg.; J. D. Henderson, M. R. O.; H. J. Bolin, Mascot; T. F. Fitzgerald, R. F. D. 38; C. P. McNabb, W. P. Wood, Burwell Bldg.; H. A. M. Smith, R. E. Donahue, W. C. McClain, Knoxville.

Lake County: Drs. W. S. Alexander, Ridgeley; J. D. Alexander, Tiptonville; J. A. Fisher, Phillippi; J. T. Griffin, R. W. Griffin, Tiptonville; R. B. Griffin, R. E. Hellen, Ridgeley; J. A. Jones, Wynnburg; E. T. Kelty, Tiptonville; W. L. Summers, Ridgeley; J. D. Phillips, Tiptonville.

Lauderdale County: Drs. S. T. Chapmon, Halls, R. F. D.; J. L. Dunnavant, Heming, R. F. D.; S. M. Glenn, Ripley, R. F. D.; W. M. Hall, Halls, R. F. D.; Lawson Johnson, Ripley, R. F. D.; R. B. Kilpatrick, Gold Dust; W. K. Lackey, J. K. Lackey, Joe B. Lackey, J. R. Lewis, G. A. Lusk, W. D. Miller, Ripley; T. E. Miller, Ripley, R. F. D.; J. R. Osteen, Ashport; Thos. Pipkin, Heming; J. A. Porter, J. W. Sanford, Ripley; H. W. Sanford, W. C. Sanford, Henning; B. R. Sanford, Heming, R. F. D.; H. W. Tucker, Halls, R. F. D.; C. B. Walker, Ripley, R. F. D.; L. F. Ferguson, Gates.

Lincoln County: Drs. J. M. Anderson, E.

K. Blair, Fayetteville; J. D. Bryant, Fayetteville, Rout 8; W. F. Canmon, Fayetteville, Route 5; J. M. Cullum, Fayetteville; J. P. Farrar, Fayetteville, Route 8; E. C. Forbes, Hanell; C. L. Goodrich, Fayetteville; J. B. Goodwin, Flintville; J. T. Graham, Booneville; A. G. Hayes, Cold Water; E. F. Holland, Mulberry; W. S. Joplin, Petersburg; J. M. McWilliams, B. E. Noblett, T. A. Patrick, Fayetteville; J. E. Sloan, Boonshill; W. P. Summers, Harms; J. M. Wyatt, Fayetteville; E. A. Downey, Huntland; D. M. Goodwin, Fayetteville; J. M. Shelton, Kelso, Route 1.

Loudon County.—Drs. J. G. Eblen, Lenoir City; Ambrose Jones, Greenback; W. D. Padgett, W. D. McDonald, J. T. Leeper, T. J. Hickman, W. T. Foute, Lenoir City.

Macon County: Drs. J. Y. Freeman, M. H. Allen, Patterson East, D. D. Howser, A. Y. Kisby, W. W. Tucker, La Fayette.

Madison County: Drs. G. L. Williamson, S. A. Henderson, J. A. Blackman, J. A. Crook, Jackson; J. D. Hopper, Jackson, R. F. D.; Kelly Smythe, Bemis; Will T. Fitts, Horace L. Jones, Jackson; R. L. Green, Norwood; L. L. Webb, Carroll; F. B. Hamilton, A. B. Daney, W. C. Duckworth, J. M. Arnold, W. F. Rochelle, R. S. Brown, A. M. Tullos, Jackson; J. M. Curry, Mercer; J. T. Herron, Herman Hawkins, B. C. Arnold, J. T. Barbee, F. J. O'Connor, Jos. W. McLaren, in service; Jessie Raines, Malesus; W. G. Saunders, in service; C. A. Chaffee, Beech Bluff; Ambrose McCoy, Jackson; G. F. Jones, Jackson, R. F. D.; P. B. Lusk, Jackson; G. W. Brashears, Spring Creek; J. B. Wilkerson, Jackson.

Marshall County: Drs. R. G. Baxter, Caney Spring; J. C. Crunk, Cornersville; N. H. Culbertson, Chapel Hill; D. M. Dryden, Petersburg; C. W. Dickey, Cornersville; W. T. Eatherly, Lewisburg, Route 7; S. T. Hardison, J. A. Hardison, Lewisburg; A. Jones, F. H. Gault, Cornersville; T. R. Logan, Lewisburg; C. P. Marsh, Petersburg; S. A. Moffatt, Cornersville; W. F. Preston, Mooresville; J. W. Reed, Belfast; Garrett White, Chapel Hill; J. B. White, Lewisburg; L. E. Wheat, Cornersville; C. W. Womack, Lewisburg; W. E. Vaden, Lewisburg, R. F. D.; W. T. Sharp, Farmington.

Maury County: Drs. W. E. Martin, Columbia; W. H. Kittrell, Mt. Pleasant; R. M. Church, Williamsport; J. S. Covey, Glendale; Robert Pillow, Jr., Columbia; H. O. Anderson, Williamsport; W. E. Black, Columbia; M. B. Smiser, Colleoka; J. W. Wilks, Columbia; M. M. Cook, E. M. Ragsdale, Santa Fe; T. B. Brown, W. K. Sheddan, Columbia; L. E. Ragsdale, Williamsport; C. D. Nowlin, R. S. Perry, J. G. Williamson, Columbia; J. G. Waldrop, Lynnville; M. A. Beasley, Hampshire, Route No. 1; O. J. Porter, 153 Depot Brig., Camp Dixon, N. J., Brigade Surgeons' Office; W. R. Webb, Hampshire; P. D. Biddle, C. A. Forgey, Robt. Pillow, Columbia; J. T. Hardison, Carter's Creek; H. A. Gant, A. S. Horseley, Columbia; J. H. Jones, Hampshire; J. C. Morrison, Mt. Pleasant; J. C. Hardin, Spring Hill; W. B. Harrison, Geo. Williamson, Columbia.

McMinn County: Drs. D. P. Brendle, Englewood; L. A. Copenhaver, Englewood; Jas. M. McGahey, Niota; Gus Shipley, Athens; J. O. Nichols, Etowah; R. A. Brock, Athens.

McNairy County: Drs. T. A. Kirkland, Binghamton; H. C. Sanders, Selmer; E. L. Baker, Adamsville; R. M. Kendrick, W. T. Bell, Selmer; W. M. Barnes, Finger; J. J. Abernathy, Corinth, Miss., Route 5; J. R. Smith, Selmer; N. A. Tucker, Finger; E. M. Smith, Bethel Springs; J. R. Davis, Guys, Route No. 1; W. H. Hodges, Finger; E. G. Sanders, J. G. Howell, Stantonville; O. C. Doty, Savannah; Jno. Eason, Hardy Davis, Finger; Hayes Abernathy, Adamsville.

Monroe County: Drs. S. N. Penland, B. W. Bagwell, R. C. Kimbro, Madisonville; J. A. Hardin, W. A. McClain, T. M. Roberts, Sweetwater; L. L. Barnes, J. A. McCallum, Vonore; M. D. Shearer, Tellico Plains; W. A. Rodgers, Palston, Ky.; H. C. Shearer, Madisonville; A. M. Huling, Belltown.

Montgomery County: Drs. W. H. Brandau, J. W. Brandau, John Ross, Lewis Neblett, F. J. Runyon, M. W. Ellis, Geo. E. Vaughn, H. H. Edmondson, J. D. Slayden, R. B. Macon, Bryce F. Runyon, Clarksville; R. J. McFall, Paris; H. A. Nesbitt, Cunningham; Roy Webb, Almironti, Panama.

Obion County: Drs. M. L. Smith, Fulton, Ky.; T. B. Sharp, T. L. Roland, Obion; P. W. Prather, Woodland Mills; Swan Burrus, care Ancon Hospital, Panama; Ira H. Jordan, Obion, R. F. D.; Z. D. Boaz, Harris; M. A. Blanton, T. W. Watson, J. D. Carlton, J. B.

Hibbitts, H. W. Qualls, Union City; W. F. Roberts, Troy; Jno. D. Adams, Hornbreak; L. D. Nichols, Hickman, Ky., Route No. 5; Ilar Glover, Union City, Route No. 2; E. H. White, Rives; J. B. Havener, Troy; P. N. Matlock, Elbridge, Route 1; J. F. Darnall, Obion; J. L. Wright, Elbridge; D. C. Maddox, Union City, Route 8; J. B. Adkerson, Union City; C. C. Marshall, Hornbreak; H. T. Butler, Union City.

Overton County: Drs. J. D. Capps, Wm. Breeding, Livingston; J. W. Davis, Windle; J. T. McDonald, Monroe; A. B. Qualls, Livingston; W. M. Brown, Louisville, Ky.; C. H. Davis, Crawford; O. H. Moyer, Hanging Limb.

Polk County: Drs. L. E. Kimsey, F. M. Kimsey, W. W. Kimsey, Ducktown; A. J. Guinn, Ducktown; F. A. Geisler, Isabelle; A. W. Lewis, E. M. Akin, W. Y. Gilliam, W. H. Weeks, C. W. Strauss, Copperhill; W. J. Hewson, Ducktown.

Putnam County: Drs. J. S. Trapp, Sparta, Route No. 8; L. D. Ensor, Z. L. Shipley, W. A. Howard, Lex Dyer, J. F. Dyer, Cookeville; J. T. Moore, Algood; L. A. Ledford, W. T. Sewell, Baxter; Samuel Denton, Buffalo Valley; W. C. Officer, Monterey; L. M. Freeman, Cranville; J. A. Johnson, Monterey.

Rhea County: Drs. W. P. McDonald, Spring City; R. C. Miller, Evensville; J. R. Gillespie, W. P. Allen, Dayton; J. L. Jones, Dayton, Route 1; C. C. Patch, Graysville; Samuel Donaldson, Dayton.

Roane County: Drs. John Roberts, G. P. Zirkle, Kingston; J. E. Nelson, T. H. Phillips, J. A. Sewell, J. C. Wilson, Rockwood; W. W. Hill, E. F. Dodson, Harriman; A. B. Lutrell, Glen Alice; J. B. Cross, Wheat; J. J. Waller, Oliver Springs; F. A. Neergard, G. C. Givan, Harriman; E. S. Phillip, Rockwood; G. E. Wilson, M. R. C.; W. E. Gallion, Oakdale; J. M. Clack, Rockwood; Geo. F. St. John, Hy M. Carr.

Rutherford County: Drs. V. K. Earthman, J. C. Overall, Murfreesboro; J. J. Rucker, Murfreesboro, R. F. D.; W. E. Youree, Readyville; J. F. Adams, Bradyville; D. C. Huff, Christiana; E. H. Jones, R. W. Read, Murfreesboro; E. O. Jenkins, Smyrna; S. B. Smith, Overall; J. R. Moon, Christiana; A. J. Jamison, Mat B. Murfree, V. S. Campbell, Murfreesboro; A. E. Goodloe, in army; W. J. Engle, Smyrna; E. B. Allen, Christiana; J. A. Scott, Murfreesboro; J. T. Harris, Walton Hill; Geo. W. Crosthwait, Florence; J. W. Cartwright, Christiana.

Robertson County: Drs. M. L. Bradley, Sadlersville; J. R. Connell, Adams; W. J. Cunningham, Grenbrir; D. E. Davis, B. F. Fyke, Springfield; E. S. Hawkins, Cedar Hill; J. S. Hawkins, Nashville; W. T. Henry, Springfield; T. L. Johnson, Greenbrier; G. R. Jones, Orlinda; J. E. Moore, Cross Plains; W. W. Porter, J. H. Reeves, D. W. Ramer, Springfield; Wm. Royster, Cedar Hill; J. W. Thomas, Cross Plains; F. M. Woodard (deceased), Springfield; M. A. Walton, White House; J. B. Woodruff, Jacksonville.

Scott County: Drs. J. I. Foster, Huntsville; T. L. Phillipps, Oneida; Pitney Phillips, Glen Mary; M. E. Thompson, W. S. Cooper, Oneida; W. W. Foust, Robbins; D. M. Woodard, Ynone; D. T. Cambers, Smoky Junction; G. T. Todd, Robbins.

Sevier County: Drs. S. W. Flanigan, J. B. Delozier, J. W. Ogle, A. W. Ogle, J. W. Rogers, A. J. Isham, Z. D. Massey, Q. W. Robers, Sevierville; J. P. Rogers, Seymour; J. S. Yarberry, C. H. Hoffman, Sevierville.

Shelby County: Drs. J. C. Ayres, Exchange Bldg.; J. M. Biggs, Bank of Commerce; J. B. Blue, W. T. Braun, Exchange Bldg.; W. B. Burns, Porter Bldg; A. P. Bush, Exchange Bldg.; W. S. A. Castles, 1139 Wellington St.; W. F. Clary, Joe Clifton, Bank of Commerce; J. J. Cuplings, Central Bank Bldg; W. C. Campbell, A. B. DeLoach, Exchange Bldg.; H. B. Everett, Binghampton, Tenn.; P. M. Farrington, Exchange Bldg.; B. W. Fontaine, Central Bank Bldg.; H. S. Ellis, Bank of Commerce; R. H. Henderson, J. F. Hill, F. G. Hill, Exchange Bldg.; R. W. Hooker, Bank of Commerce; Jno. L. Jelks, Union & Planters' Bank Bldg.; J. H. Karsch, Goodwin Institute; Elizabeth C. Kane, Geo. R. Livermore, Louis Leroy, A. C. Lewis, Exchange Bldg.; R. H. Miller, Bank of Commerce Bldg.; F. B. Moore, Exchange Bldg.; O. S. McCown, Bank of Commerce Bldg.; J. A. McDonald, Exchange Bldg.; J. W. Mason, Chelsea Ave.; N. K. Moody, Exchange Bldg.; W. T. Pride, J. W. Price, Bank of Commerce Bldg.; W. E. Ragsdale, Central Bank Bldg.; H. G. Rudner, Exchange Bldg.;

E. Rosemond, Bank of Commerce Bldg.; J. B. Stanford, John J. Shea, W. L. Simpson, Exchange Bldg.; Neuman Taylor, Bank of Commerce Bldg.; B. F. Turner, S. D. Terrell, O. S. Warr, Exchange Bldg.; J. S. Winter, Central Bank Bldg.; P. H. Wood, J. M. Walton, F. B. Hoover, J. L. Andrews, Exchange Bldg.; W. L. Williamson, Central Bank Bldg; J. H. Carter, Tennessee Trust Bldg.; J. L. Barton, 78 Main St.; Walter Stewart, Union & Planters' Bank Bldg.; J. L. Beauchamp, 614 N. 7th St.; H. B. Jacobson, Union & Planters' Bank Bldg.; E. M. Holder, Wm. Krauss, Bank of Commerce Bldg.; Alfred Moore, Randolph Bldg.; R. R. Davenport, Central Bank Bldg.; Geo. E. Pettey, 116 N. Bellevue; H. B. Conley, Randolph Bldg.; F. T. Mitchell, Central Bank Bldg.; A. W. Rudisell, 1014 Palton Ave.; N. F. Raines, Raines, Tenn.; J. A. McIntosh, 879 Madison, Tenn.; F. L. Husbands, Vicksburg, Miss.; Jno. W. Ragsdale, Mallory Branch, Memphis; C. M. Chilton, Exchange Bldg.; H. C. Thomas, 212 Cooper Ave.; A. G. Hudson, Raines, Tenn.; Marcus Haase, Bank of Commerce Bldg.; W. A. Watson, 792 Washington Ave.; W. R. Wallace, 958 Fifth St.; B. L. Branch, Collierville, Tenn.; Moore Moore, R. E. Semmes, O. P. Walker, Bank of Commerce Bldg; G. P. Dowland, Binghampton, Tenn.; A. L. Bleeker, Tennessee Trust Bldg.; D. P. Kincaid, Exchange Bldg.; C. C. Chaffee, Brunswick; R. L. Sanders, 1130 Exchange Bldg.; W. L. Howard, 1108 Exchange Bldg.; I. G. Duncan, 1508 Bank of Commerce Bldg.; F. R. Kenton, Exchange Bldg.; C. R. Mason, 36 Mallory Bldg.; L. Schmittou, Exchange; J. H. Smith, 1618 Exchange Bldg.; Robert Fagin, Exchange Bldg.; E. E. Haynes, Central Bank Bldg.; Geo. Gartly, Exchange Bldg.; C. C. Howard, Randolph Bldg.; S. Burchart, Exchange Bldg.; W. H. Grogg, Binghampton, Tenn.; O. M. Laten, Tennessee Trust Bldg.; R. C. Bunting, Central Bank Bldg.; E. J. Johnson, J. A. Crisler, W. T. Black, W. H. Pistole, Exchange Bldg.; M. Goltman, Bank of Commerce; E. C. Hamm, Harry Dickson, Cummings Harris, J. Pearl Stephens, Central Bank Building; J. B. Fisher, Randolph Bldg.; L. W. Haskell, Bank of Commerce; J. E. Clark, Forrest Hill; G. E. Anderson, Randolph Bldg.; A. G. Jacobs, Central Bank Bldg.; J. B. McNulty, Exchange Bldg.; W. O. Baird, Memphis Trust Bldg.; Sidney Meeker, Bank of Commerce; Jno. T. Moss, Lee Bldg.; S. J. Sibley, Randolph Bldg.; H. H. Scrage, Central Bank Bldg.; J. J. Neely, Goodwyn Bldg.; Jno. M. Maury, Bank of Commerce Bldg.; F. D. Smythe, in army; Richmond McKinney, Bank of Commerce; C. E. Duvall, McLemore & Royburn; E. K. Leake, Collierville; D. K. Sauls, Bank of Commerce; Robert Mann, Central Bank Bldg.; W. H. Lovejoy, 511 South Parkway; H. S. Wolf, Tennessee Trust Bldg.; J. B. McElroy, Central Bank Bldg.; F. R. Chaffee, Lucy, Tenn.; R. R. Flaniken, Brunswick, Tenn.; Henry Posert, Southern Express Bldg.; S. S. Terrill, Bank of Commerce Bldg.; H. C. Watkins, Central Bank Bldg.; M. A. Shultz, 175 W. Iona Bldg.; W. W. Taylor, Exchange Bldg.; H. A. McQuiston, Brunswick; C. W. Edwards, 488 Laclede Ave.; P. W. Toombs, Exchange Bldg.; A. G. Coleman, Goodwyn Institute; E. D. Mitchell, Bank of Commerce; P. J. Flippin, Brunswick, Tenn.; J. M. Maury, Bank of Commerce; Alfred Moore, Randolph Bldg.; F. M. Malone, Copleville; W. W. Mitchell, Peabody; Frank A. Jones, Exchange Bldg.; J. G. Lizon, Bingham, Tenn.; A. B. Williams, 1347 McLemore; S. T. Rucker, Goodwyn Institute; E. Rutledge, Exchange Bldg.; J. E. French, 2177 Walker Ave.; P. H. Anderson, Tennessee Trust Bldg.; W. T .Michie, Frank Graham, Central Bank Bldg.; J. D. Bridger, Bank of Commerce; D. M. Hall, Memphis Trust Bldg.; W. S. Anderson, Bank of Commerce Bldg.; E. E. Francis, Central Bank Bldg.; C. D. Allen, W. G. Alford, W. H. Baldwin, C. M. Beck, S. N. Brinson, K. M. Buck, Geo. L. Brown, J. R. Crosby, A. F. Cooper, L. H. Chapman, T. N. Coppedge, W. C. Colbert, W. C. Carnes, E. C. Ellett, S. E. Frierson, Joe Francis, Jas. S. Fleming, C. H. Glover, J. J. Hobson, T. H. Ingram, Jas. E. Johnson, Max Kaplan, Lewis Levy, R. F. Mason, Battle Malone, L. L. Neyer, E. C. Mitchell, J. L. McGehee, H. M. McFarland, Ben F. Norwood, J. P. Owens, P. A. Perkins, A. R. Porter, Jr., W. L. Rucks, Lee A. Stone, Hubert Sage, W. G. Sommerville, W. T. Swink, M. G. Spingarn, Ben L. Schoolfield, E. G. Thompson, R. B. Underwood, E. D. Watkins, L. L. Keller, D. M. Henning, J .A. Vaughn, Shields Abernathy, J. R. Drake, B. C. McMahon, in service; J. B.

Gerino, 613 Kress Bldg., Houston, Tex.; A. H. Butler, Exchange Bldg.; H. T. Brooks, 879 Madison Ave.; L. G. Miller, Central Bank Bldg.; S. W. Thorn, Tennessee Trust Bldg.; W. M. Peete, 499 Vance, Ave., A. R. McMahon, Geo. B. Stewart, J. B. Stanley, J. C. Bell, W. D. Horne, 63 N. Belvedere; W. R. Cox, L. R. Polk, Memphis.

Smith County: Drs. M. N. Alexander, J. J. Beasley, Pleasant Shade; I. H. Beasley, Dixon Springs; W. F. Boze, Carthage, R. F. D.; Joe C. Bridges, New Middleton; J. S. Campbell, Gordonsville; L. D. Cotten, in service; C. H. Donohue, Carthage; Rhea Garrett, iDxon Springs; B. J. High, Elmwood; R. E. Key, Monoville; A. P. Parker, Brush Creek; C. D. Robbins, Gordonville; Joe. E. Smith, Grant; J. H. Chism, Carthage; F. M. Blankenship, Hartsville.

Sumner County: Drs. W. N. Lackey, Gallatin; J. H. Stephens, Hendersonville; Jno. R. Parker, Gallatin; R. N. Buchanan, Hendersonville, R. F. D. No. 2; W. W. Roark, Bethpage; W. P. Moore, E. E. Peden, Portland; W. T. Allen, L. M. Woodson, Gallatin; B. S. Galbraith, Hendersonville; T. E. Wright, Bethpage; Lieut. Jos. M. Oliver, Portland; Capt. Homer Reese, Ft. Oglethorpe, Ga.; F. H. Dunklin, Gallatin Pike; Wm. B. Law, Westmoreland; J. O. Baker, Gallatin; T. Y. Carter, Westmoreland; J. M. Venters, Portland.

Sullivan, Carter, Johnson Counties: Drs. T. J. Hicks, Bloomingdale; D. R. Stout, Butler; C. W. Flenor, Emmett; A. V. Keebler, Bristol; H. P. Hyder, G. E. Campbell, Elizabethton; J. C. Cottrell, H. S. Smythe, J. B. D. Robinson, Mountain City; J. V. Jordan, Hampton; Faustine Graves, iPney Flats; J. A. Delaney, T .F .Staley, C. M. Cowan, G. M. Peavler, A. J. Edwards, W. K. Vance, A. J. Roller, Bristol; J. R. Butler, J. B. Shoun, Mountain City; W. W. Vaught, Shouns; R. F. Childress, Kingsport; E. S. King, Bluff City; S. E. Reynolds, R. A. Range, Elizabethton; N. D. Robinson, Carter; J. C. Hutchison, Crandull; C. C. Hacker, J. N. Rasar, Elizabethton; Jos. Perquard, Kingsport; F. W. Poindexter, Newport News, Va.; L. B. Snapp, Blountville.

Tipton County: Drs. H. W. Sale, W. W. Sale, Nat Newman, G. B. Gillespie, C. L. Hays, L. Hill, Jr., Covington; A. J. Raby, Tabernacle; L. A. Yarbrough, B. V. Dixson, Holmes Roane, Covington; B. H. Harrison, H. C. Currie, Burlison; J. J. Fleming, Atoka; N. W. Kelley, Brighton; J. B. Witherington, Munford; W. P. McDavid, Lambert, Miss.; E. A. Boswell, W. B. Holloway, Garland; A. B. Blaydes, Atoka.

Warren County: Drs. Jno. S. Harris, McMinnville; Herman Reynolds, Viola; A. J. Trail, R. L. Maloney, Albertz Seitz, Q. C. Cantrell, McMinnville; E. L. Mooneyhan, Rock Island; A. B. Ramsey, McMinnville.

Washington County: Drs. N. E. Hartsook, W. T. Kennedy, G. J. Sells, Johnson City; J. L. Clark, Jonesboro, R. F. D. No. 4; H. M. Panhorst, S. B. Morelock, Jonesboro; R. S. Bolton, Johnson City; J. W. Wallace, Watauga; C. S. Kinzer, Kingsport; C. E. Horn, Jonesboro, R. F. D.; J. G. Moss, Johnson City; J. F. Arnold, Limestone; W. N. Warilek, Jonesboro; J. V. Hodges, W. J. Mathews, E. A. Long, E. T. West, J. P. Randall, Johnson City; J. H. Jones, Garbers; R. B. Hyder, J. W. Cox, Elnore Estes, H. D. Miller, Johnson City; R. W. Dulaney, Jonesboro; H. M. Cass, W. J. Miller, Johnson City.

Weakley County: Dr. R. M. Little, in service; D. E. Young, Sharon; G. C. Thomas, Greenfield; B. B. Parish, Dresden; V. A. Biggs, T. B. Wingo, Martin; J. E. Taylor, Dresden; J. C. Young, Martin; J. D. Sharon, J. R. Fowlkes, Greenfield; C. M. Sebastian, Jno. M. Stewart, Martin; D. L. Jones, Dukedom; H. B. Stephens, T. W. Fields, Dresden; H. G. Edmondson, Gardner; B. S. Mayo, Dresden; A. P. Smyth, Martin; W. W. McBride, Gleason; J. A. Moore, Sharon; Ira J. Tatum, in service; J. E. Jeter, Gleason; H. B. Stevens, Dresden.

White County: Drs. A. A. Bradley, Cookeville, Route No. 5; W. J. Breeding, E. B. Brock, E. B. Clark, S. E. Gaines, Sparta; J. R. Gott, Clifty; D. R. Gist, W. M. Johnson, Sparta; P. K. Lewis, Ravenscroft; A. F. Richards, Sparta; R. E. Lee Smith, Doyle; L. E. Tubb, Poughkeepsie, N. Y.; B. M. Little, Bon Air; Vernon Hutton, Ravenscroft.

Williamson County: Drs. S. F. Oden, Brentwood; K. S. Howlett, Franklin, Geo. C. Paschall, Arrington; H. P. Cochrane, Dan German, Sam W. White, Franklin; J. D. Smith, Franklin, Route No. 1; W. W. Graham, College Grove, Route No. 2; J. W. Greer, Thompson Station; W. R. Eddleman, Leiper's Fork; J. B. Core, Bethesda; J. O. Shannon, Franklin.

Wilson County: Drs. J. R. Bone, T. O. Bratton, Lebanon; M. B. Campbell, Lebanon, Route No. 12; J. L. Davis, Watertown; Walter Dotson, A. O. Eskew, Lebanon; J. J. McFarland, Lebanon, Route No. 4; S. W. McFarland, Lebanon; F. E. Shannon, L. L. Tilley, Lebanon, Route 1; M. H. Wells, Watertown; C. V. Young, Lebanon; R. Q. Lillard, Lebanon; W. D. Martin, Mt. Juliet, Route No. 6; J. M. Weaver, Mt. Juliet.

NOTE: The names here printed are those of members reported by County Secretaries up to November 10.

MISCELLANEOUS

ACNE VULGARIS.

Acne vulgaris is inflammation of the sebaceous follcles. Tthe typical acne papule or pustule is usually preceded by a "blackhead," or comedo; and in nearly every case comedones are interspersed with papular or pustular lesions.

A comedo is formed by the plugging of a sebaceous follicle with dried sebum. Usually the demodex folliculorum, a parasite usually hramless, is present in the comedo.

The number of acne lesions varies greatly. The usual seats of distribution are the face, the upper part of the back, and sometimes the chest. Artificial acne—that is, acne due to irritation by chemicals, such as tar and grease—has a special local distribution, according to the part of the body exposed to the irritation.

The acne lesion may be superficial or deep. When the depths of the sebaceous follicle are invaded by the inflammation, the acne lesion becomes indurated (acne indurata), and presents on the surface as a red or purplish tubercle. In this form the lesion is practically a small abscess.

The individual superficial acne lesion runs a short course. The deeper lesions last longer, from several days up to two or three weeks. The disease itself, however, beginning, as a rule, during the years of adolescence, may extend over a period of several years.

The subjective symptoms of acne are slight. The lesions are, however, the source of anxiety to the patients, because of associated disfigurement.

Artificial acne is caused by irritation of the skin by irritants that circulate in the blood, such as the iodides or the bromides, or by such irritants as tar or oil on the surface of the skin. The irritation due to tar and oil affects especially workers in these products.

Acne stands next to eczema in its frequency among skin affections. Strickler (Am. Jr. M. Sc., Vol. CLIV, No. 4, October, 1917, p. 579) gives comparative figures based on dispensary practice and mixed dispensary and private practice.

The affection does not appear, as a rule, before puberty. It is found to a large extent among adolescents, and may be associated with sexual disturbances and menstrual disorders. It does not respect social classes, and its presence does not necessarily mean irregular sexual functions or habits.

According to the statistics of Bulkley, cited by Strickler (10c. Cit.), constipation is present in about 45 per cent of the cases. It was present in about 35 per cent of Strickler's cases. Other gastro-intestinal disturbances may be present. Ketron and King (Jr. A. M. Ass., Vol. LXVII, No. 9, Aug. 26, 1916, p. 671) subjected thirty patients with acne to various tests of the gastro-intestinal tract (fluoroscopy, test-meals, analyses of gastric contents), and found gastric abnormalit yin 93 per cent and intestinal abnormalit yin 70 per cent.

Causes that tend to produce acne are, among others, conditions that produce also reflex flushing of the face and excessive sebaceous activity. Conditions of malnutrition of the skin also tend to produce it. Acne patients may show a tendency to anemia. There may be an increase in the percentage of sugar in the blood. This seems to be especially true in indurated acne (see article by Schwartz, Heimann and Mahnken, Jr. Cutan.

Dis., Vol. XXXIV, March 16, 1916, p. 159).

After the formation of comedones in acne these become infected with various organisms, especially the staphylococci. Gilchrist (Jr. Cutan. Dis., Vol. XXI, No. 2, Feb., 1903, p. 107) obtained in pure culture from sixty-two lesions, and in smears from 240, an organism which he calls bacillus acnes and which he regards as causative. It is often associated with staphylococcus albus. Strickler (loc. cit.) obtained the bacillus acnes in pure culture in three efforts out of thirty. He states that Sohamberg has described a bacillus resembling the bacillus acnes; it was found in the sebum expressed from the skin of the nose of normal individuals. Strickler (loc. cit.), working with bacillus acnes antigen, in colloboration with Kolmer and Schamberg, found that the sera of forty-eight out of fifty-seven patients (84.2%) suffering with acne fixed complement. When staphlococcus antigen was used, 64% of the sera showed fixation of complement.

Treatment of acne is both constitutional and local. Many remedies have been suggested for constitutional treatment. Pusey (The Principles and Practice of Dermatology, 1917) devotes a trenchant paragraph to this subject: "Aside from the doubtful benefit derived from arsenic, the specific remedies suggested in acne, like calcium sulphid, ichthyol, and sulphur, are, in my opinion, useless, although sulphur in five-grain doses three times a day may be a useful laxative. When there are definite rational indicationals to be met in the physical conditions of acne patients, constitutional treatment is of benefit; it is particularly necessary to get rid of constipation and other digestive disturbances. But, on the whole, the relief of acne depends on local treatment."

Hawk and collaborators (Jr. Am. M. Asso., Vol. LXIX, No. 15, Oct. 13, 1917, p. 1243) have recently called attention to the value of bakers' yeast (Fleischmann's) in the general treatment of acne vulgaris. This general remedy seems to be ideal so far as the combatting of constipation and digestive disturbances are concerned. We shall defer its consideration as a remedy until we have seen what can be done for acne locally. We shall also defer the subject of vaccine treatment of acne.

Locally, the use of keratolytic and astringent antiseptics is indicated. Tincture of green soap should be freely used, followed by rinsing of the parts with cold water. Comedones should be removed by the thumbnail, watch-key, extractor, or by pressure with the back of a dermla curet. The pustules may be incised and touched with tincture of iodine, or the tips of the lesiens may be curetted and treated with some antiseptic.

Astringent antiseptic solution, such as Vleminckx's solution (strength, 1 to 10 of water, increased every few days until 1 to 4 is attained), lotio alba (weak solutions first, then stronger solutions), corrosive sublimate solutions, or resorcin washes may be employed. Mercurial applications should not be made immediately after applications containing sulphur unless all of the sulphur has been removed from the skin, otherwise comedones will be produced. In very severe acnes, strong betanaphthol or sulphur pastes are used.

Yeast has been used locally incorporated into soaps. A preparation of yeast has been used thus among others by Kabisch (Deutsche Aerzte Zeitung, No. 2, Jan. 15, 1909, p. 30; Dreuw Monat f. prakt. Dermat, Vol. LII, No. 7, April 1, 1911, p. 349), who used yeast externally not only in the form of soap, but incorporated into various pastes and ointments.

The X-ray is now a standard method of dealing with cases of acne. Short mild exposures are given at intervals of several days. It is needless to state all such treatments should be in the hands of an expert.

Returning again to general treatment, we find as one of its forms vaccine therapy, a form that has been provocative of good results in the hands of many observers, but which is thoroughly discountenanced by others. Gilchrist (The Bulletin of the Medical and Chirurgical Faculty of Maryland, Vol. VII, No. 7, January, 1915, p. 94), obtained excellent results from the injection of bacillus acnes vaccine. "There is no doubt about the great value the bacillus acnes vac-

Liquid Petrolatum Squibb

Heavy (Californian)

Specially refined under our control and exclusively for us by the *Standard Oil Company of California* which has no connection with any other Standard Oil Company.

DURING Pregnancy and Lactation, Liquid Petrolatum Squibb will regulate the bowels and alleviate or prevent haemorrhoids without affecting the child, as it is not absorbed. Palatable, safe, no leakage, no habit.

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

RELIABILITY
UNIFORMITY PURITY EFFICIENCY
E. R. SQUIBB & SONS

THE CITY VIEW SANITARIUM

ESTABLISHED 1907

For the Treatment of Mental and Nervous Diseases and the Addictions.

A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accomodations to meet the requirements of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65.

JOHN W. STEVENS, M. D.

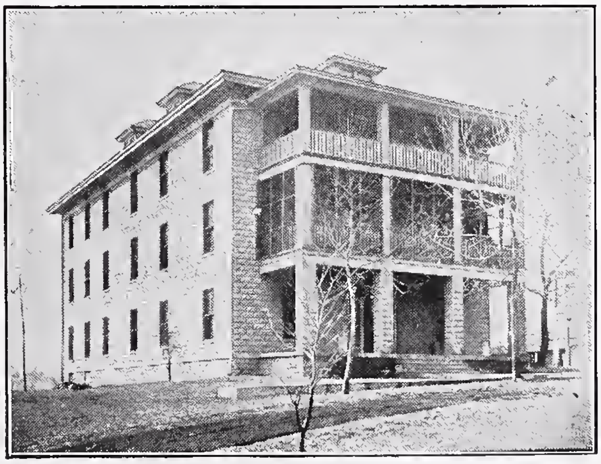
PHYSICIAN-IN-CHARGE

Telephone Main 2928
Rural Route No. 1, Nashville, Tenn.

REFERENCES—THE MEDICAL PROFESSION OF NASHVILLE

New 50 Room Department Completed January, 1915

Now Have Two New Buildings, One For Each Sex



cine has on the inveterate nodular type, where the bacillus acnes exists in pure culture.'' On the other hand, Pusey (loc. cit.), states: ''After a long use of vaccine in acne I have discarded them as useless in my experience.''

One of the difficulties in applying vaccine treatment to acne is that of determining just what vaccines (i. e., the vaccines of what organisms) to use.

H. H. Fox's experience (Jr. Am. M. Asso., Vol. LXVI, No. 26, June 24, 1916, p. 2064) has been the same as Pusey's. Of fifty-three cases of acne vulgaris, 17 per cent were improved by vaccine treatment alone, 1 per cent were cured; 60 per cent of fifteen cases were improved by local treatment alone, 6 per cent cured; 100 per cent of three cases were improved by combined vaccine and local treatment, none cured; 66 per cent of three cases were improved by internal medical treatment alone, none cured. Among internal medicines used were calcium sulphide and cod liver oil. The vaccines used were stock and autogenous. We find no mention of the type of organism employed.

One of the foremost remedies in the general treatment of acne vulgaris is yeast. As already stated, the importance of bakers' yeast in the treatment of acne vulgaris was pointed out by Hawk and collaborators (loc. cit.), who used it with success in a variety of conditions. Brewers' yeast had for a long time been used with success in the treatment of acne. It possesses, however, the disadvantages of non-availability and non-uniformity. Hawk treated seventeen cases of acne vulgaris with one to three cakes of bakers' yeast daily. Many of these cases had resisted other treatment. In from one week to two months all the cases of acne vulgaris had improved or were cured. Hawk states: ''Whet proved or were cured. Hawk states: ''Whether the success of yeast in acne vulgaris and acne rosacea is due alone to its laxative action or to some fixed effect on the intestiinal tract, we are unable to say. The preparation was laxative in all these cases. We consider that yeast is fully as successful as any other remedy in furunculosis, acne vulgaris and acne rosacea.''

As stated, yeast has been used at various times in the treatment of acne, and with success. There seems to have been a prejudice in favor of brewers' yeast, but this the article by Hawk should remove.

Among the medical authors who have used yeast with success in acne are Saalfeld (Deutsche Med. Wochenschr. Vol. XXXII, No. 29, July 19, 1906, p. 1163) and Paschkis (Wiener klin. Wochenschr, Vol. XV, No. 31, July 31, 192, p. 791). Saalfeld noticed a diminution of the indican in the urine of his patients, or even its disappearance, under yeast treatment. The possibility of the diminution of blood-sugar is to be thought of. Paschkis employed both brewers' yeast and bakers' yeast with good effect.

The value of yeast in acne is freely acknowledge in the text-books. Thus yeast, or its preparations, is recommended in the textbooks of Darier (1909), Walsh (1913), Sibley (1916), and Gougerot (1907). Chatelain (1910) has used bakers' yeast in acne without seeing a great difference between the results of brewers' yeast and bakers' yeast.

Acne due to chemicals should be treated by the removal of the cause.

A SUGGESTION FOR SPANISH INFLUENZA.

In view of success obtained by Woolley, at Camp Green, and by McCord, Friendlander and Walker at Camp Sherman, in preventing diseases of the upper respiratory tract, such as meningitis, measles, pneumonia and iphtheria, by local use of Chlorazene and Dichloramine-T solutions, it is reasonable to believe that equally good results man be obtained with the same remedies in the prevention and cure of Spanish influenza.

The method employed at Camp Greene was to gargle or spray the throat three or four times daily with 0.25 per cent solutions of Chlorazene. The nasal pharyngeal tract was then sprayed twice a day, or more frequently, with 2 per cent Dichloramine T solution in Chlorcosane.

This treatment, in association with aspirin and other salicylates, and the generous use of bacterins, has much promise.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., DECEMBER, 1918 NUMBER 8

SOME RECENT CASES OF FOREIGN BODY IN THE TRACHEA, BRONCHI AND ESOPHAGUS.

By RICHMOND MCKINNEY, M. D., F. A. C. S.,
Memphis.

Professor of Diseases of the Nose, Throat and Ear, University of Tennessee College of Medicine; Oto-Laryngologist to Memphis General, Baptist Memorial and Lucy Brinkley Hospitals.

The removal of foreign bodies from the trachea, bronchi and esophagus by means of peroral endoscopy no longer can be classed as a new procedure, for more or less skilled broncho-esophagoscopists are now found in every large community, and these hitherto largely neglected cases—neglected through lack of means to relieve them—are in constantly increasing numbers receiving the benefit of the peroral route and methods of removal which have been developed by Killian, Jackson and other pioneers in this work.

The technic of broncho-esophagoscopy can from the very nature of the work never be other than difficult, and the removal of foreign bodies by this method of procedure will always be attended by dramatic interest, so even the mere reports of cases of this character are interesting—at least to those of us who do this kind of work.

Just as in the past few weeks I have had several cases of varying nature, which are typical of the varieties in which these foreign bodies are present, and also of the different localities in which they are found. For instance ,as is shown in the first radiograph, a pin was removed from the larynx of a child of twelve. The radiograph showed the pin very clearly, but diligent search failed to reveal it to me ,as there apparently was nothing but mucus in the larynx. I was about to discontinue the search, when I noticed that one of the strings of mucus was in the position that the radiograph pictured it, and picking up this string of mucus, the pin was found enclosed therein. It was necessary to dislodge the pin downward, since its point was imbedded, before it could be removed.

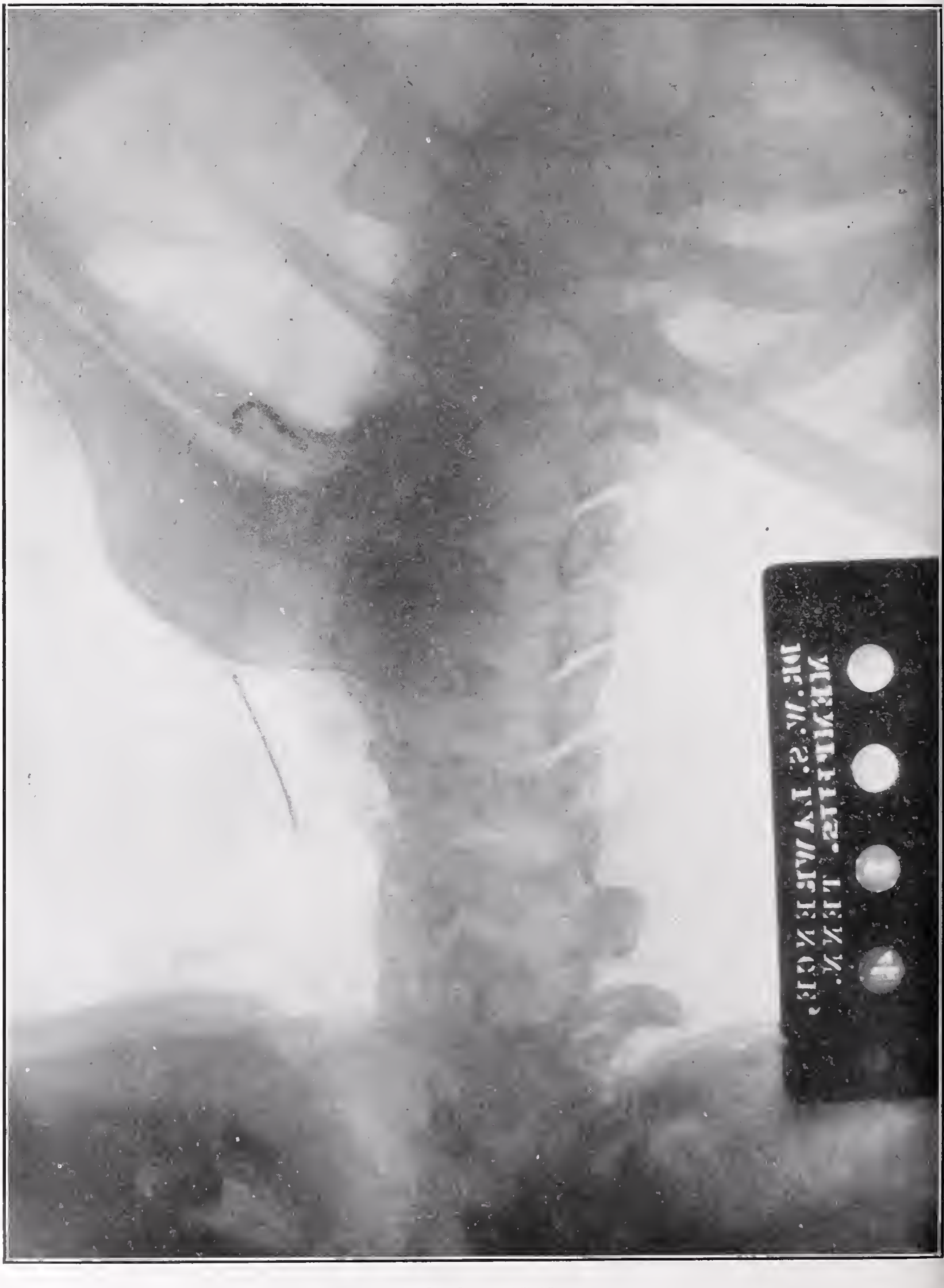
This case was illustrative, in that it illustrated the fact that a rusty pin may be so camouflaged, if I may use the term, by mucus, that the foreign body may be overlooked, even though the observer may be accustomed to loking for such objects, and has positive x-ray findings to guide him in his search.

The second picture shows a large carpet tack in the trachea of a five-year-old child. This tack presented itself head down, which is usually the case with such foreign bodies, and as the radiograph shows, was wedged in the opening of the right bronchus. The danger here was of the tack being drawn down into the bronchus, which would be possible in a child of this age, and this would have rendered the problem of removal more difficult. Fortunately, I was able to secure the tack at the first attempt.

In the third picture we have about the commonest type of esophageal foreign body, and my collection of these would be as large as found on the average church collection plate, the coins being, I am sorry to say, mostly pennies and nickles. This case was a child two and a half years of age, who had swallowed a penny, which lodged, as is seen in the picture, at the cricopharyngeal constriction.

Under the fluroscope, with curved forceps, the penny was removed.

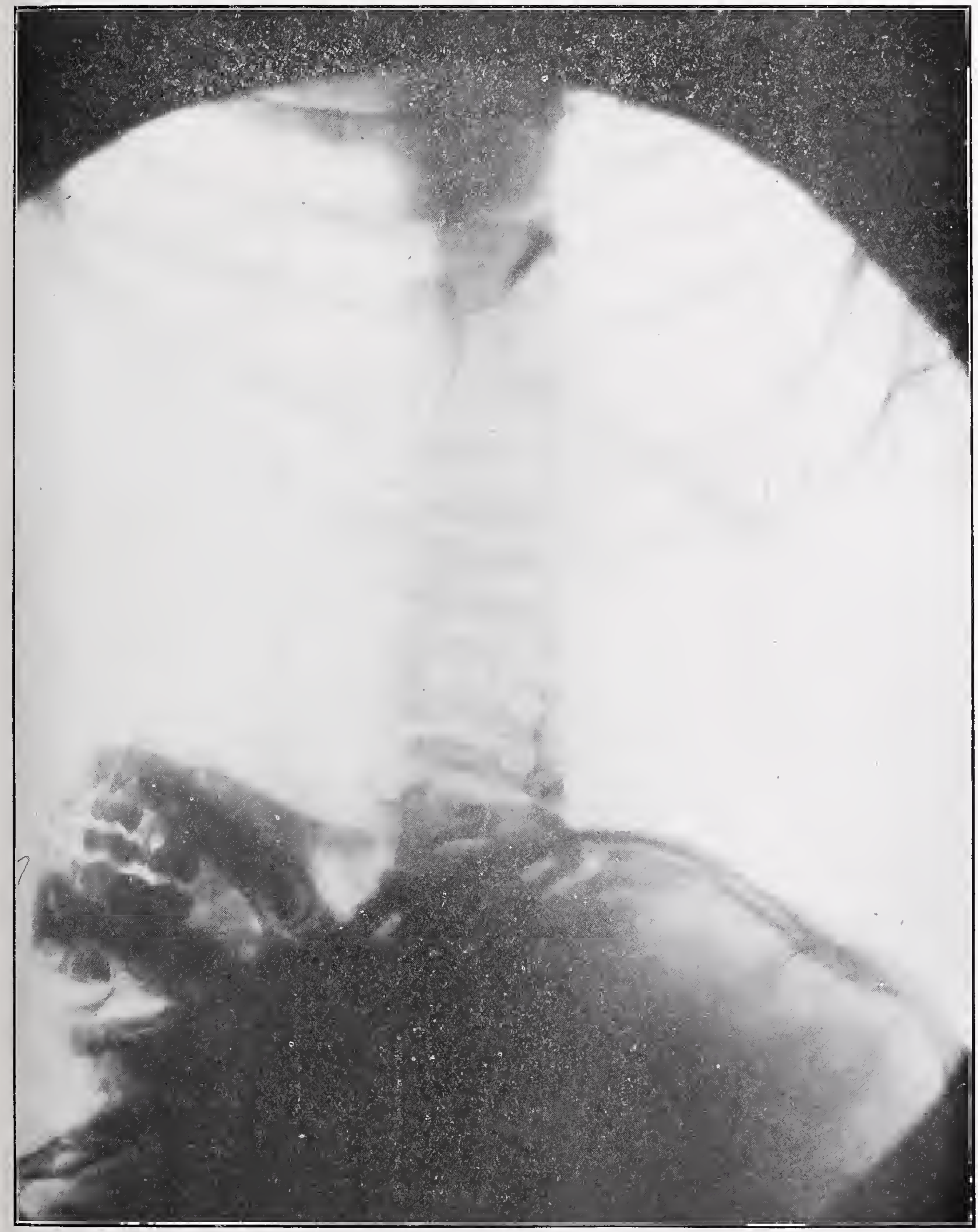
Coins and buttons, which seem to be the favored articles of diet with young children rarely ever pass the cricopharyngeal constriction, and it is fairly safe to assume that i



PIN IN LARYNX

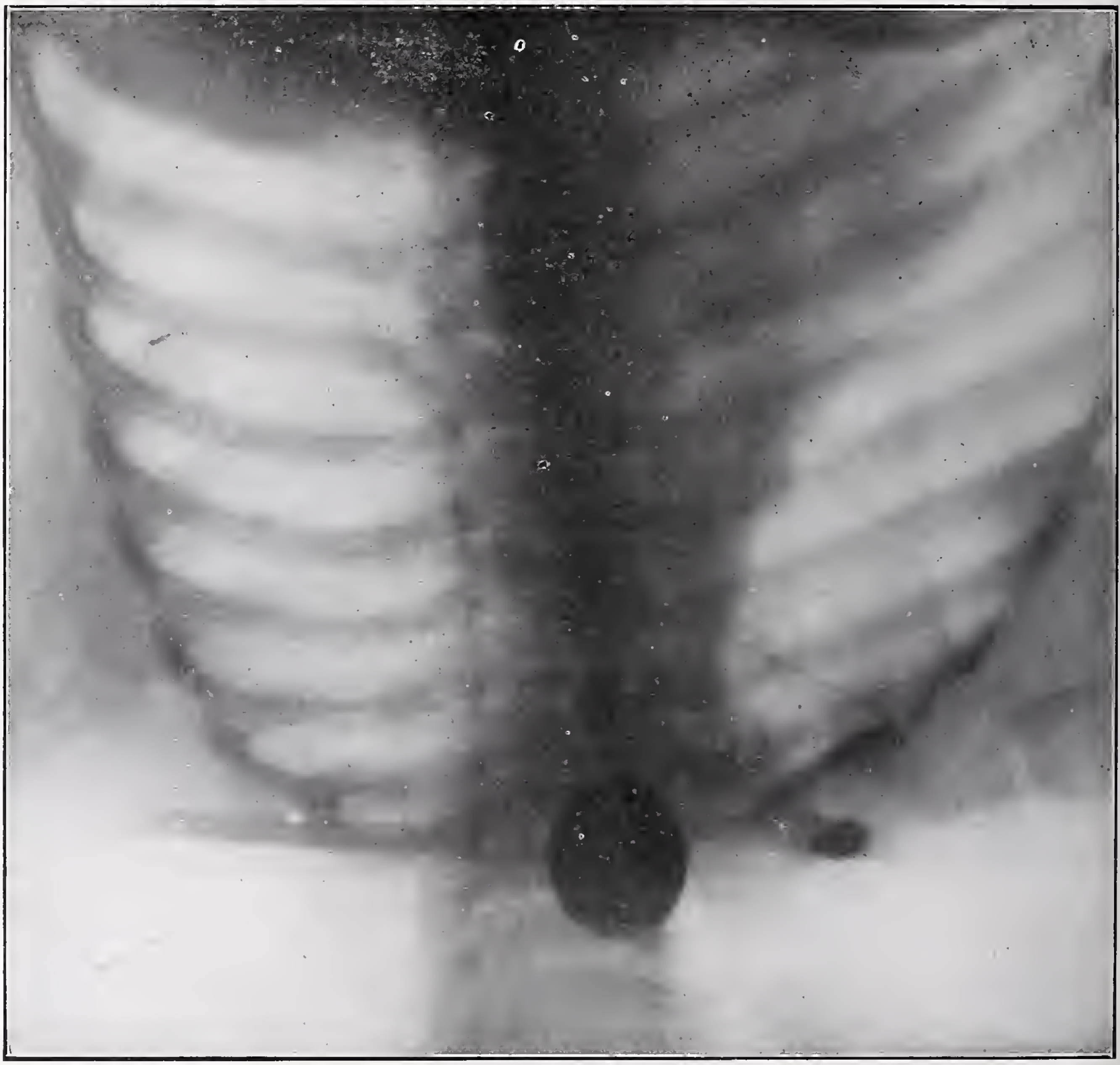
they do they eventually will be passed through the natural channels, although sometimes they stop at the cardiac end of the esophagus. In these cases I now seldom use the esophagoscope, preferring the less complicated technic mentioned.

Nourishment can very readily be taken past foreign bodies of this character, since, being flat, they do not entirely occlude the lumen of the esophagus, but other types of foreign bodies may so obstruct the esophagus that the taking of adequate nourishment is im-



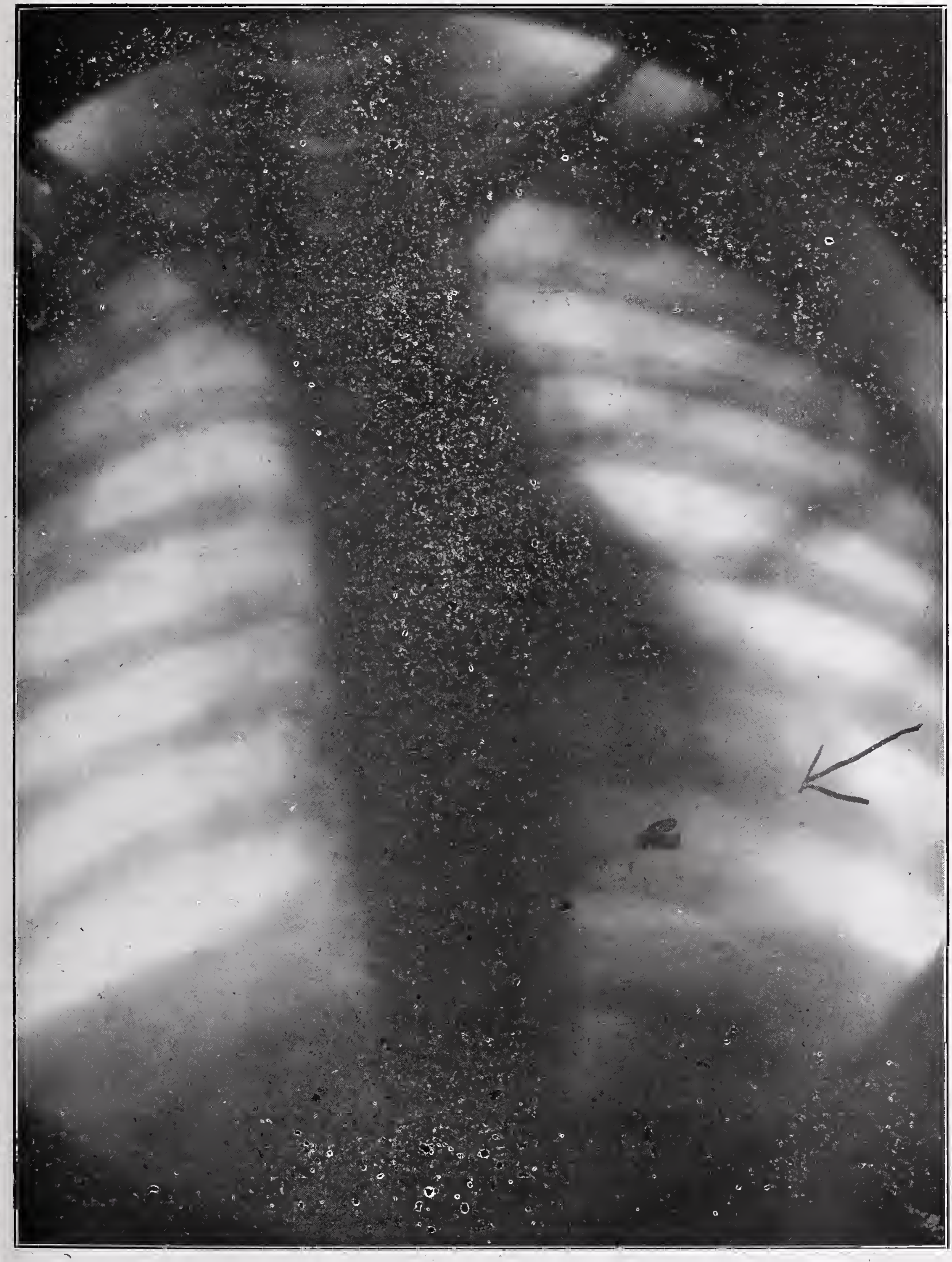
CARPET TACK IN TRACHEA

possible. This is particularly true of pieces of meat, which are bolted sometimes without thorough mastication, and lodge in the esophagus. I may mention a case of this character that I had last year, where an elderly man had had his teeth extracted preparatory to having plates made, and one evening attempted to eat a piece of steak, which slipped down without being masticated and lodged in the esophagus. When brought to me, this old chap was dying of water-hunger, not having been able to get even a little fluid past the obstruction for four days. With a Bruenings' esophagoscope, I located the meat at the cardiac end of the esophagus, and had little difficulty in removing it. My patient consumed enough water in a few minutes to float a battleship, followed by a bottle of "shorty," which he had obtained from some accommodating Memphis barkeep, saying that he wanted to drink all that he could then, for fear the "demned thing might stop up again."


PENNY IN ESOPHAGUS

The last picture is one that already has appeared in the literature, having been published in the Laryngoscope a few months ago, but I take the liberty of reproducing it here, owing to the fact that it was the most difficult case of foreign body in the air passages that I have ever dealt with.

The foreign body was a small, oval-headed brad from an old suitcase, occurring in a child five years of age, and when first seen the brad was located in the right bronchus, between the fifth and sixth ribs, but later, before it could be removed, had gone to the bottom of the inferior lobe bronchus, between the eighth and ninth ribs, as shown by the dart in the



COPPER BRAD IN RIGHT BRONCHIAL TUBE

picture. With fluroscope bronchoscopy the brad was successfully removed.

A type of tracheal and bronchial foreign body that is peculiarly dangerous and difficult to handle is where the intruder is a seed of some kind, such as a grain of corn, lima bean or a watermelon seed. A case in point is one that was brought to me recently. A child two years of age had inhaled a grain of corn, which was moving up and down in the trachea. Under light ether anesthesia, removal was attempted, using a Jackson speculum and Bruenings forceps. A dangerous situation suddenly developed when the seed jumped between the vocal cords, cutting off breathing altogether, and since I could not instantly remove the seed, the child turned blue and would have been dead from asphyxiation almost immediately, had I not placed my mouth over the child's and blown the seed back into the trachea. The next morning, with no anesthesia at all, I secured the seed without difficulty.

In cases such as this I customarily work without anesthesia, for foreign bodies of this character, especially those which absorb moisture, such as lima beans, swell and occlude the air passages, and with the increased amount of mucus that accompanies the use of a general anesthetic, together with the congestion and swelling of the mucous membrane, asphyxiation can so easily happen that there is a marked added danger where general anesthesia is used. I lost a case of this character last winter on the table, the child having inhaled a lima bean, which became lodged across the bifurcation of the trachea, thus occluding the openings of both bronchi, and despite the fact that I had performed a hurried tracheotomy, the great swollen bean could not be removed in time to save the unfortunate child's life.

"SPANISH FLU."

By J. J. Waller, M. D.,
Oliver Springs, Tenn.

I do not think a disease so epidemic, pandemic, even sporadic, should claim Spain or any other country as its parent. With the reputation it has made in this country, I question if any nation or continent would feel honored to be known as its progenitor. I would rather know something of its end than to kno wits origin.

Give us another war with Germany, Mexico and all the other heathenish countries in preference to another blast of this most distressing flu. The family of orphans, the lone widow, the cattle at the barn, with no one to feed; the plow standing in the field, rusting, the corn not gathered, and the general panorama of desolation viewed through tear-dimmed eyes, usher to our senses and observation that a great, merciless juggernaut has rolled over the land and left weeping and wailing in its path. Like a hideous monster, he went his way, and none could hinder. With a slight blink at the real old and the real young, he flung his javelin at the robust, middle-aged manhood and womanhood of the land, with a decided preference for the women in travail. The well-to-do were not exempt; while the ones in poor circumstance and in uncomfortable dwellings possibly suffered most, it was not uncommon to see the white casket trimmed in velvet going into the cemetery along with the plain, cheap coffin of wood. A perilous time, and not quite over yet. The man who dug his neighbor's grave today might head the funeral procession next week. No telling who would be next.

Flu? Yes, and with a vengeance! Nothing like it in this country before. Judging from its conduct, I should say it is German. Practically it was without discrimination, and without mercy.

Any way to avoid it? Not that I know. Running from place to place was not an assurance of safety at all; nevertheless, it was more fatal in some districts than in others. It did not visit all at the same time, some places being from two to several weeks behind other places in receiving the unwelcome visitor. But it has reached very nearly all parts of the country. It literally came rolling over the land, flattening things as it went.

I was on the firing line in the coal field campaign, and saw its ravages. Deaths and funerals nearly every day, and some days more than one or two. Most of our physicians being sick, I stood on the front and whipped the battle flag of Aesculapius in the face of this enemy to our people. Nurses were scarce, cooking in demand, and none to give medicine. After administering to eleven in one family, I asked the victimized father who was to give the medicine. He said: "I do not know." So it was in many places.

Allow me to mention some of the types of flu I encountered:

1. Gastro-intestinal type, where the patients would vomit and purge from three to five days.
2. A diarrhoea accompanied many of the other types.
3. Severe headache, and generally aching all over.
4. Sneezing and sore throat. Most of the sore throat types were before the rains laid the dust.
5. Bronchial, with extension downward into the finer tubes in a large per cent of cases. The pneumonias following this type were of the broncho type. Pleurisy in some cases, and pyothorax in two of my cases. It was not easy every time to differentiate the effusion from the consolidated lung, except by aspiration.
6. A mental type, with subnormal temperature, was common. They would "get off their trolleys" and do strange things, thus proving that the peculiar poison (whatever it is) was goring the nervous centers and dethroning the mental faculties.

Other types could be mentioned, but this practically covers enough for a working basis. The poison of flu had a tremendous effect on the myocardium, weakening it. Sometimes the heart would go fast and weak, sometimes slow. I noticed great fluctuation in the fever—from 95.8 to 104. Great weakness, mental languor, about 10 per cent had nosebleed; the taste was numbed, so food was not relished.

In one of my cases it seemed to spend all its force on the heart, and it soon died out. One case had jaundice. Most of the pregnant women aborted, miscarried, or brought forth prematurely; and if such a woman took pneumonia, she was sure to die early. I kept one of my cases from aborting by keeping her in bed all the time, and for many days after the flu had seemingly left her. Flu is dangerous, and the complications more so. The pneumonia following was very fatal. It seems that a kind of wax or glue would fill the bronchi and cause them to smother to death. Nothing I could find would soften it.

Recovery was always slow, and convalescence often interrupted with backsets. Many would get on their feet and then have to go back to bed. They were not unlike the Irishman who said he was sick three weeks after he got well.

Treatment.—It was not satisfactory, in the main. I found quinine no good. Aspirin and such kindred drugs would often ease the pain; many times it would not—then it would weaken the heart. Calomel would do good only in that class of cases who needed calomel anyway.

Castor oil purgation was resorted to by the laity; some used inhalants, with how much good, I do not know.

For the sore throats and bronchial cough, terebene worked well. For the bronchitis bordering on the pneumonia, citrate of sodium in large doses was valuable. Later, calcium creosote did good. In a sthenic case the tincture of gelsemium was most excellent. One of my favorite prescriptions among the poor people who had many children all down with the flu was as follows:

Salicylate of Soda.
Tr. Gelsemium.
Tr. Aconite.
Fld. Ipecac.
Deod. Tr. Opium.
Mix Aquae q. s.

This could be made up in a bottle or glass in the home. Directions: Give largest child a teaspoonful, and the younger ones a dose of same in proportion to the age. When giving to one, give to all. By so doing the whole family of kids could be tided along. This was simple and easy to carry out even by the ignorant without confusion.

The greatest danger in the disease is its complications, which have to be met on general principles as they arise.

The one great desideratum is to put the patient to bed and keep him there longer than he wants to stay. Uniform temperature, rest, ventilation, not in an exposed place, and food offer the best prospects.

I wish some of our "bug" men and pathologists who have made post mortems would tell us what they have found.

OVARIAN INFLUENCES.

By George R. West, M. D.,
Chattanooga.

The dual role performed by the ovaries was first suggested by the memorable labors of Claude Bernard; subsequently Brown-Sequard announced his views relative to the similarity between testicular and ovarian juices ,and emphasized the fact that ovarian extracts are less powerful than the extracts of the male glands.

It has been abundantly proven that the ovary is instrumental in the production of more than one hormone. An "ovarian hormone" is elaborated by the interstitial stroma of the gland and is concerned in the regulation of menstruation and of nutrition generally; while uterine activity and rhythmical contractions are probably engendered by the secretion of the interstitial cells. Again, the corpus luteum elaborates a hormone that inhibits ovulation between the oestrus period and ovulation during pregnancy.

The distinguished French scientist, Prenant,[1] uttered the first pronouncement upon the subject of luteal internal secretion, and shortly afterward Fraenkel [2] asserted that the luteal hormone specifically controls uterine nutrition during reproductive life; that the corpus luteum is an internal secretory gland, that affords the essential conditions for the embedding of the ovum. Frank [3] asserts that the corpus luteum sensitizes the uterine mucosa, making it responsive to mechanical stimuli, with the resulting formation of the maternal placenta; it inhibits ovulation and is essential in the early stages of pregnancy. It is probable that certain cases of luteal disorder engender sterility, and, per contra, the employment of corpus luteum would seem feasible for the purpose of facilitating the attachment of the ovum.[4]

The luteal hormone is of importance in the development of the mammae.[6] This assertion is made by several scientific investigators. Again, Hallion and Battuaud [6] contend that the mammary hormone is the antagonist of the ovarian hormone, and that changes in the relative proportions of these hormones result in disturbed innervation. Forgue and Massabuan [7] support their statement that at the climacteric the occurrence of profuse hemorrhage is liable to occur from increased hormone production, the result of hypertrophy of the luteal cells of the ovary.

There exists an intimate relation between ovarian secretion and bodily metabolism, and it has been amply proven [8] that ovarian extracts greatly improve retarded nutrition, that at times occurs during pregnancy. In passing it is interesting to note that the internal secretions of the ovary preside over the metabolism of inorganic salts, thus regulating the chemical composition of the blood.

The corpus luteum was first described by Volcherus-Coiter, named by Malpighi, and, as previously intimated, the elaboration of its internal secretion was first announced by Claude Bernard. Its subsequent study has largely progressed through the indefatigable researches of L. Fraenkel.[9] It was he who demonstrated that the continuation of pregnancy in rabbits, during its first half, was dependent upon the integrity of the corpora lutea, and that the extirpation of all luteal tissue from the human female was followed by absence of all menstruation. His experiments and deductions have been largely corroborated by scientists on both hemispheres. It is maintained by most investigators that the internal ovarian secretion exerts a dominant role in the development and metabolism of woman only during that period or epoch which has its beginning a few years prior to puberty, and extends to a few years after the climacteric. Complete absence of internal ovarian secretion antedating and following pregnancy tends to failure of development—i. e., the infantile type of uterus, lack of mammary development and pelvic configuration, closely resembles that of the male subject.

Modern trend of thought inclines strongly to the opinion that the pituitary plays no inconspicuous part in the human economy and that it holds a striking relation to skeletal development. Failure of development of the ovaries and uterus may be dependent upon abnormalities of the pituitary gland, prior to adolescence; after adolescence, anomalies of the pituitary may result in atrophy of the genitalia.

In regard to skeletal development, in the cases of giants and dwarfs, lack of genital development is not uncommon, and yet with either of these conditions, genital dystrophy occurs. Thus, in acromegaly, so pronounced are the changes in the ovaries that not a few investigators lean to the belief that hypofunction of the ovaries is the dominant factor, producing changes in the pituitary that are directly responsible for acromegaly.

The close relationship between the ovaries and the thyroid is often evidenced at puberty, when cardiac irregularity, shortness of breath and the existence of nervous symptoms manifest themselves as the expression of the inability of the economy to accommodate itself to the newer condition (ovarian secretion), or perhaps, because the close interrelation of ovary and thyroid so stimulates the thyroid that the latter acts irregularly, often with too great force, so that the individual is really suffering with hyperthyroidism.

In some instances ovarian secretion is constantly stimulating the thyroid, in other instances the stimulation occurs only before each menstrual period, in others at irregular intervals. In myxedematous females violent hemorrhage often occurs at the menstrual epoch, to be most effectively controlled by thyroid medication. In Graves' disease lack of balance between thyroid and ovary engenders a decreased menstrual flow, at times so pronounced as to bring about amenorrhea.

Furthermore, these pertinent facts show the close relation between the thyroid and the reproductive system:

1. The greater size of the thyroid in the female.
2. The enlargement of the thyroid in pregnancy and during menstruation.
3. The tendency to the development of goitre during pregnancy.
4. Early atrophy of the thyroid after the menopause.
5. Loss of the sexual appetite, in many cases of thyroid disease.

These few prefatory words form the briefest kind of epitome showing that in the blood there are circulating countless substances of the nature of hormones and performing a myriad of functions. Less than twelve years have elapsed since some of the most fertile minds in the medical profession began to unfold the great secrets hidden deep in those organs, that heretofore had been designated as enigmatic, but today this NEW physiology is teaching us that the great balance in the human economy rests largely on the integrity of its internal secretions.

I believe I have selected one of the most important fields in the department of organotherapy when I discuss the subject of "ovarian influences," especially when, in the opinion of the trained gynecologist, the removal of the ovaries and the tubes are absolutely demanded and the importance of the hormone therapy acts in supplying the needed secretion that formerly functionated and maintained part of the bodily balance. And if we emphasize the words "when the removal of the ovaries and the tubes are absolutely demanded," reference is made at this time to affections and conditions outside of the ovary, where even the healthy functionating ovary may at each menstrual epoch be directly responsible for untold suffering and misery on the physical or mental make-up of the patient.

With these thoughts in view, the mind intuitively harks back to that ill-fated day when ablation of the uterine appendages was ruthlessly done for a score of maladies that undoubtedly would have yielded to measures less severe, and in many instances disastrous results were caused by the ablation being performed by practitioners of medicine who were only "occasional" operators.

This radical innovation originated with Robert Battey, of Georgia, and swept through the country with an irresistible force that brought the operation into ill repute, and Battey on several occasions was threatened with personal violence, while in some quarters he was unmercifully excoriated by the medical press.

Battey asserted that since many disorders persist from the monthly afflux of blood to the sexual organs and are, therefore, incurable during menstrual life, the only chance of immediate relief lay in the establishment of an artificial menopause.

The conception of the operation, asserts Battey, came to him after mature thought.[1] In 1866 he was charged with the care of a young lady, physically perfect, except the absence of menses. The menstrual molimen had occurred at the usual intervals, without any showing of menstrual blood. The nervous and vascular disturbances which attended upon this failing function had broken down and destroyed her health, and she died without relief. At the post mortem the uterus was absent and in its place was a small rudimentary nodule. He reasoned with himself that the fatal issue of the case was due to functional activity of the ovaries, uncompensated by the normal issue of blood. He reasoned: "If I had but removed the ovaries, stopping the function of ovulation, the balance would have been restored, and there would no longer have been any need of menstruation." He believed that under like circumstances no other case should die.

Shortly thereafter,[2] Battey operated on his second case for persistent and long-standing amenorrhea, telling his patient that the thought "is the creation of my own brain, unsupported by any practical test or by the authority of any recognized opinion. . . . and that the voice might become masculine, the sprouting of a beard upon the face possible, and that she might confidently expect to be completely unsexed." She gladly accepted the operation.

After a few years the mutilation of women for every conceivable ailment had now become epidemic, and a committee was appointed to interrogate Battey upon this radical line of procedure. To their queries he answered as follows:[1] "It is my purpose to rid my patient in the first place of a diseased or pernicious ovulation; secondly, to avail myself of the great alterative changes in the nervous system which attend upon a change of life, and in doing so revolutionize the whole female economy and thus throw off an otherwise incurable disease." "Accepting the definition of Webster," said Battey," and in spite of my professional brethren, I am not able to perceive any impropriety in distinguishing my operation as normal ovariotomy, from that of McDowell's term, 'ovariotomy,' according to rule." Thus arose the terms, normal ovariotomy, oophorectomy, oophorotomy and Battey's operation.

But strong opposition, nevertheless, existed, and one of Battey's staunchest supporters vehemently exclaimed: "Was it not the same cry with ovariotomy? Wasn't ovariotomy condemned in spite of McDowell, Atlee, Clay and Spencer Wells? The advocates of the operation were ostracised, and in 1843 Diffenbach, the boldest of all surgeons then living, wrote that ovariotomy was murder, and that every physician who performed it should be put into the dock."

In 1887 Battey reported that of fifty-four cases in private practice, carefully followed up from 1 to 10 years, thirty-three were cured, eight much improved, five little improved and eight not improved. There was complete menopause in fifty and pseudo-menstruation in four. Of the latter two had the tubes removed and two not. He prefaced his report with these words: [1]

"I have operated under widely different circumstances. In one case the patient had amenorrhea, convulsions, recurrent hematocele, repeated pelvic abscesses, incipient tuberculosis, etc. Several of these cases passed under the head of ovarian neuralgia, several had intractable dysmenorrhea, with pelvic deposits of old lymph, one had ovarian insanity, etc. All had exhausted the available resources to no useful purpose. I operate upon no case that any other respectable medical man proposes to cure. In most of my cases the full results of my operation have not yet been developed. This is the work of many months, and sometimes two or three years are necessary to its full and perfect realization. In no case but has the patient such a great relief and benefit, following the operation, as to amply compensate her for the pains and danger incident thereto, to say nothing of the full and ample recovery at the completion of the physiological change. In two of my cases this change seems to have occurred at once in all its completeness, but it is always my expectation that it will gradually occur, extending through two or three years to its final completion. In my first case, now nearly three years ago, the patient's restoration to health is eminently satisfactory. It is true that she is not absolutely and perfectly well, but she is now relieved of the many nerve symptoms, the hematuria, etc., for which I operated. I submit this question in all sincerity: If I confine myself to cases where life is in danger, or where health and happiness are destroyed—cases which are utterly hopeless of other remedy this side the grave—ought the profession demand at my hands the restoration of these forlorn invalids to complete and absolute health in every particular?"

As this radicalism gave way to calm judgment and the dictates of reason and science became assertive, it soon became manifest that there was and is a fertile field for good in the operation of oophorectomy for the cure of affections outside of the ovary and where the ovary itself may show not the slightest abnormality. By this procedure and through the introduction of organotherapy, the patient's health in not a few instances may be conserved, with the total banishment of a long train of nervous and undermining symptoms.

The operation is indicated in every case where it has been conclusively proven that cure or amelioration cannot otherwise be secured. The services of a competent neurologist is a sine qua non.

And, secondly, where there is likelihood of the patient's restoration to health by less dangerous methods or without the sacrifice of the reproductive function, the operation should be considered as a measure of very last resort.

The indications for the operation are physiological and pathological, and it is with the former of these that we are interested. The physiological include that class of cases in which the operation of oophorectomy is performed with a view to the establishment of the menopause, without any reference to the existence of any pathological condition in the organs removed.

Of special interest in the physiological category are the neuroses, and under this heading we may group: Mania, puerperal-mania, menstromania, nymphomania, epilepsy, hystero-epilepsy, convulsions and hysteria.

The occurrence of a chain of nervous symptoms at the menstrual epoch is most easy of explanation. A great symptom-complex is occurring in the economy with the menstrual molimina; pelvic congestion, swelling of the breasts, enlargement of the tonsils and other glands about the neck and frequency of the pulse rate; and the mention of the fact of frequency of the pulse rate brings to mind at once the increased arterial tension concomitant with menstruation. During the menstrual periods there exists throughout the body a condition of exalted arterial pressure, and it is this nervo-vascular disturbance, affecting cerebral centers, that easily accounts for a long list of neuroses occurring with each menstruation, in some susceptible females.

The removal of the appendages in the various forms of mania and epilepsy is only indicated when the gynecologist can trace, in the origin or progress of the malady, a close association with the performance of their function. For illustration we may mention those instances of menstrual epilepsy which seem to be produced solely from the sexual system, starting so often at puberty, lasting throughout the individual's lifetime, and ofttimes leaving their helpless victim bereft of reason, upon the verge of the grave. The initial menstrual flow ushers in the first convulsive seizure, and later it is around ovulation as a storm center that eclamptic attacks envelop the victim.

There is a large body of incurable women whose mental infirmity appears to depend wholly upon the act of ovulation. Of this class there are some who never exhibit these aberrant symptoms save during the menstrual period.

There is a large part of the medical profession who urge the operation of oophorectomy upon imbeciles and idiots to prevent propagation of their kind. There is an equally large sentiment against the operation—so much so that in many states the drafting of such an act has received an emphatic veto, whenever the profession has seen fit to present it. A number of gynecologists do not endorse the removal of the appendages, under the circumstances, but advocate various measures to secure sterility.

Only as a very last resort should oophorectomy be performed in instances of hysteria, and then only when the patient fully understands the influences that it will likely exert on her future life.

In nymphomania, the operation is futile.

Conditions Affecting the Uterus.

In absent uterus or with a badly developed organ, and where there is an effort on the part of nature to establish a menstrual flow, the wisdom of establishing the menopause is unquestioned. Again, oophorectomy is the logical operation for non-restorable uterine displacement with marked nervous disturbance. Congenital or acquired obstruction to menstruation, whether uterine or vaginal, falls in the same category. In chronic metritis (areolar hypoplasia) the inflammatory condition favors the development of pregnancy and at the same time the pathological condition incapacitates the uterus nourishing the developing ovum. In these cases the production of the menopause would greatly benefit the individual. For the arrest of growth and hemorrhage in uterine fibromata, some gynecologists advocate the operation of oophorectomy; others assert that the procedure is not always successful, and is not followed by the menopause, and they urge a supra-vaginal hysterectomy. Formerly, however, the latter operation was difficult of accomplishment and oophorectomy was the more common operation.

According to Beaston,[1] in ineradicable cancer of the breast, double oophorectomy, causes precipitation of the menopause, with consequent involvement of the mammary tissue. An inhibitory action upon the growth in many cases follows, as a result of fatty degeneration of the cancer cells. Best results are obtained in patients under 50. Lett reports ninety-nine cases, thirty-six much benefited, twenty-three improved, and omitting patients over 50, forty-one per cent showed marked betterment. W. W. Keen says that too much faith should not be placed in the procedure, but that it is always worthy of a trial.

In conclusion, it is interesting to note that several investigators have found that in oophorectomy the excretion of urinary calcium is so greatly diminished that apparently the ovaries exert a large part in calcium excretion, especially in connection with menstruation. Clinical proof is not wanting to show the excellent results obtained in cases of osteomalacia following oophorectomy.

The subject of organotherapy is always a most interesting one ,but nowhere have its results been so beneficially illustrated as in the department of gynecology, if we but except the brilliant advances made in the treatment of cretinism and myxedema, through the agency of thyroid therapy.

But twelve years ago knowledge on the subject was quite inexact. No active principle of the ovary had been isolated. It was then asserted that its action varied; that in hysteria, favorable results followed its administration; that it was an agent for good for all the symptoms following oophorectomy and that of sixty-four old women treated in one of the Paris hospitals, all were greatly rejuvenated, all became amiable, and even more talkative.

As the three agents most capable for good for the symptomatology following oophorectomy, we mention ovarian extract, corpus luteum and thyroid extract.

Considering the last of these first—namely, thyroid—we know experimentally that thyroidectomy produces shriveling of the uterus with an increased activity of the follicles of the ovary, and from statements made earlier in this paper, we have seen the mutual dependency of ovary and thyroid. The action of thyroid extract on ovarian strurture needs further research, but it is an indubitable fact that a wide range of gynecological conditions have yielded to thyroid medication, when more powerful agents were ineffective. Most authorities claim that best results are to be found in the administration of frequently repeated small doses of the medicament.

Ovarian extract, which, according to some investigators and clinicians, is unsatisfactory, undependable and of varying chemical constitution, and is usually administered in the form of a tablet or cachet (5 to 8 grains three or four times daily). The special preparations on the market from the laboratories of Merck & Co. have won a measure of approval. In one preparation one part represents two parts of the fresh gland (dose 15 to 30 grains, thrice daily), the other, designated "ovaraden," one part represents eight parts of the fresh gland (dose, 3 to 6 grains). As just remarked, although ovarian extract is frequently found to be inactive, nevertheless, a large part of the profession employ it to the exclusion of the luteal extract.

Corpus luteum.—This should be fully developed, tissue-free corpora lutea, of the **sow,** which closely resembles comparative human substances and presents a greater number of individual bodies than an equal weight of corpora lutea from the larger animals. Selected yellow bodies freed from all tissue are dried in vacuo. The corpus luteum should be obtained from the pregnant animal, because it is then more stable. When obtained at other times, it varies greatly in dose and is apparently affected by the atmosphere.

Therapeutically, corpus luteum is probably a physiological stimulus, tending to restore normal ovarian function. When taken by the mouth it is innocuous, but when injected intravenously there is a rapid fall of blood pressure, paralysis of the muscular system, and toxic symptoms closely resembling the effects of a lethal dose of strychnia, evidently showing the presence of some inherent poisonous substance or compound that is not absorbed from the gastro-intestinal tract. (Two to five grains thrice daily may be increased to twenty-five or thirty grains t. i. d.)

Conclusions.

1. The existence of two ovarian hormones. That from the interstitial stroma concerned in menstruation and nutrition generally; secondly, the luteal hormone which inhibits ovulation between the oestrus period and ovulation during pregnancy.

2. The corpus luteum is a strictly internal secretory gland and is an important factor in the growth of the mammae.

3. There is a marked relation between ovarian secretion and bodily metabolism.

4. There is decreased calcium elimination, after the administration of ovarian substances.

5. There exists an intimate relation between the ovaries and the thyroid.

6. There is a legitimate field for the operation of oophorectomy, without evidence of any pathological condition existing in the ovaries, especially in view of the recent advances, in the production of internal secretory substances.

7. In gynecological practice, the employment of animal extracts is confined most largely to thyroid extract, to ovarian extracts and to corpus luteum. It is asserted by most authorities that the luteal extract is far more potent than the ovarian extract, and is of definite composition and is in all probability a physiological stimulus.

---

[1] Revue Med. d. l'Est (Nancy), 1898, p. 35.

[2] Arch. f. Gyn. (Berlin), 1903, lxviii, p. 438.

[3] Surgery Gynecology and Obstetrics (Chicago), 1911, xiii, p. 36.

[4] J. A. M. A. (Chicago), 1910, lv, p. 205.

[5] Soc. Biolog. (Paris), 1900, lii, p. 585.

[6] Deut. Med. Wochen. (Leipzig), 1911, xxxviii, p. 1172.

[7] Rev. d. mal. d. la. Nat. (Paris), 1909, vii.

[8] Press Medicale (Paris), 1912, xx.

[9] Arch. f. Gyn., 1903, lxviii, p. 438.

[1] Robert Battey, "The American System of Gynecology" (Philadelphia), Vol. I, 1888.

[2] Ibid.

[3] Gyn. Trans., Vol. I, 1876.

[1] Battey and Coe, "American System of Gynecology" (Philadelphia), "Vol. II, 1888.

[1] Lancet (London), 1913, Vol. I, p. 809.

A CONSIDERATION OF BACKWARD AND DOWNWARD DISPLACEMENTS OF THE UTERUS.

By J. F. Gallagher, M. D., F. A. C. S.,
Assistant Professor of Gynecology in Vanderbilt School of Medicine.
Nashville.

In reviewing the subject of backward displacements of the uterus we find anything but a unanimity of opinion as to their cause or treatment. Thus Ashton (1) states that "The uterus is held in position by the following forces: the pelvic floor, the pelvic organs, the retentive power of the abdominal cavity, and the ligaments." Quoting further, he states: "As the uterus is suspended in the pelvis between the abdominal cavity and the pelvic floor, it naturally follows that the latter contributes to its support. . . . When the perineum is torn and the vagina is no longer a closed canal, the abdominal pressure acts directly upon the uterus and forces it downward. . . . Furthermore, the abdominal pressure is increased during the acts of urination and defecation and the retentive power of the abdominal cavity is impaired by the patulous state of the vulvo-vaginal orifice.'' Gilliam (2) states that ''the integrity of the pelvic floor is very essential to the proper maintenance of the uterus in its normal position.'' It offers a firm, resistant foundation for the pelvic organs: gives support to the rectum and bladder: and maintains the vaginal canal as a valvular, closed passage at right angles to the uterus, thus placing them in the most favorable position for normal equipoise.'' Gilliam accounts the ''retentive or suction power of the abdomen'' as being ''due to the counteracting influence of the atmospheric pressure from the outside, which opposes the descent of the pelvic organs through the natural pelvic outlet.'' To prove this he elaborates at some length on the necessity of a vent in a barrel to allow fluid to escape, and tells us that the ascent of liquid in a tube following suction is in reality due to atmospheric pressure. It would have been interesting to have elucidated just what kind of a closed valve is the vagina, and what effect opening the abdominal cavity has on the position of the uterus —when the vent to the barrel is provided.

Gardner (3) says: ''About twenty-five per cent of all retrodisplacements of the uterus are congenital.'' Among the non-congenital causes he lists increased weight of the uterus, sub-involution, over-distended bladder, injuries to the pelvic floor, adhesions due to salpingitis and cysts of the ovaries. The main factors in prolapse are increased weight of the uterus and failure of the uterine supports, the most important of the latter being injuries to the pelvic floor, ''and of secondary importance is the failure of involution of the broad and round ligaments.'' He states that "when a prolapse occurs in a nulliparous woman it is due either to failure of development of the uterine supports, or to pressure downward of some pelvic or abdominal tumor.'' The use of the all-inclusive and somewhat meaningless term, ''uterine supports,'' is not confined to this author, for no less an authority than Graves (4) never approaches the subject nearer than by use of the general term, ''pelvic supports.'' Reed (5) recognizes a material difference between the pathology of backward displacements and prolapse, and states that the latter ''involves very generally first an enteroptosis, followed by a weakening of the *suspensory apparatus* of the uterus and a relaxation of the pelvic diaphragm proper, with either a relaxation or laceration of the pelvic floor.''

While these references are but few in number, they may be said to be fairly representative of what is found in text-books, and will suffice to show to what extent confusion may be worse confounded when resorting to this source of information in regard to this subject.

Resort to critical study of the statements found in text-books is of academic import only, but such generalizations as ''intra-abdominal pressure,'' without considering the physics of pressure exerted in a closed cavity: or use of the term, ''pelvic floor,'' without defining just what is the pelvic floor; or the designation of the vagina as a ''valvular passage,'' without stating how this alleged valve works, are, *prima facie,* worthless, give no adequate conception of the mechanics of this important problem, and should not be allowed to go unchallenged. Gilliam states that the retentive power of the abdominal cavity is due to the counteracting influence of the atmospheric pressure from the outside, which opposes the descent of the pelvic organs through the pelvic outlet, while Ashton states that when the vagina is no longer a closed canal, the abdominal pressure acts directly upon the uterus and forces it downward. If Ashton is right as to the vagina being a closed canal, Gilliam is wrong as to the atmospheric pressure; and if Gilliam is right as to the role of atmospheric pressure, laceration of the vaginal orifice, thus rendering the closed canal more open, should aid in sustaining the pelvic viscera in their normal position! But Gilliam states that the vagina is a valvular, closed passage! In this event it could only be what is known in mechanics as a check valve! Further discussions of this kind would not aid us, and are only quoted here to show the necessity of an accurate intensive study of the forces concerned in the support of the pelvic viscera.

The anatomy of the pelvis from below may be considered in four series: First, the skin, subcutaneous tissue and superficial fascia; second, the muscles between these and the superficial layer of the urogenital trigone—viz.. *sphincter ani externus, transversus perinaei superficialis, ischio-cavernosus* (*erector clitoridis*), *bulbo-cavernosus* (*sphincter vaginae*). (Between the two layers of the urogenital trigone are found the *transversus perinaei profundus* and the *compressor urethrae.*) Third, the anal fascia, levator ani and coccygeus muscles and urogenital trigone; fourth, pelvic fascia, the peritoneum, and a fibro-elastic and smooth muscle layer between these two. From an embryological standpoint, these structures from without inward should be divided into two layers separated by the superior fascia of the urogenital trigone. (Piersol, 6.) The muscles of the pelvic diaphragm are derived from the ventral portions of the second, third and fourth sacral myotomes, and arrange themselves as the sphincter cloacae before the cloacae becomes divided into a urogenital and rectal portion. When this occurs the sphincter cloacae divides into an anal portion (sphincter ani) and perineal portion (muscles of perineum). A horizontol separation also occurs and are arranged into two layers "separated by the superior fascia of the urogenital trigone." (6)

For the sake of clearness of subsequent descriptions, a brief consideration of the pelvis viewed from above may be well. Cleared of the viscera, the musculo-osseous pelvis will be seen to be lined with peritoneum, under which is to be found the fibro-elastic and smooth muscle layer referred to above, and which will be considered more in detail later. Beneath this is the pelvic fascia. In the false pelvis it is called the *iliac fascia,* but where it extends downward into the true pelvis over the pyriformis and the upper portions of the obturator internus muscle, it is called the pelvic fascia, and as it passes further down over the obturator internus, it is called the obturator fascia. At the line where the pelvic fascia becomes the obturator fascia—*i. e.,* extending from the spine of the ischium posteriorly to the body of the os pubis ateriorly, is a thickening called the white line. This white line gives origin to levator ani muscle; also, from this white line is reflected the continuation of the pelvic fascia which covers the upper portion of the levator and coccygeus muscles. In this pelvic fascia a number of ligaments have been described—*i. e.,* thickenings in the fascia, but whether they are individual characteristics of the subject examined or produced by methods of preservation, shall not be discussed here; but there are two thickenings generally recognized, and of some importance to this subject. They are: First, the *arcus tendineus,* extending from the spine of the ischium posteriorly to the base of the bladder, from whence it is attached to the triangular ligament to be reflected to the symphisis pubis. Along this tendinous arch, which is below the white line, a fascial layer is given off, *fascia endopelvina,* which goes to the pelvic viscera.

Considered from below but two structures are germane to this paper. These are the levator ani muscle and the trigonum urogenitale (triangular ligament). Bearing in mind the points brought out above, the origin of the levator ani is very easy—*i. e.,* this muscle arises from the posterior surface of the body of the os pubis, from the spine of the ischium and from the white line between these points. Insertion: (1) Sides and tip of coccyx; (2) raphe from tip of coccyx to rectum; (3) sides of rectum. From a study of comparative anatomy and of nerve supply, this muscle is in reality three muscles: Those fibres arising from the os pubis and inserted into the rectum and which surround the vagina external to the bulbo-cavernosus, make the pubo-rectalis. Those fibres which arise superficial to the pubo rectalis from the pubis and the anterior part of the white line to a point opposite the junction of the superior ramus with the ilium, is called the pubo-coccygeus, while the remaining portion is the ilio-coccygeus. "In the lower mammals the muscles corresponding to the ilio- and pubo-coccygeus are inserted into the caudal vertebrae and act as lateral flexors of the tail" (6). Let us note in passing that the levator ani nowhere is inserted into the vagina, to say nothing of any part of the uterus.

The actions of this muscle, as given by Cunningham, (7) are: First, slightly raise the pelvic floor; second, slight flexion of the coccyx; third, the anterior fibres sweeping around the vagina compress its walls laterally; fifth, the chief action is in defecation; sixth, contracting in delivery, first retards fetal head, then aids in expulsion.

The triangular ligament closes the anterior part of the pelvis and consists of two layers of strong musculo-membranous laminae (8), which are united posteriorly. It is about an inch and a half long, and is attached to the lower border of the pubes and the rami of the pubes and ischia. The urethera and vagina pierce this ligament.

These structures, the levator ani and triangular ligament, occupy a plane distinctly below that occupied by the uterus, and they in no place come in contact with the uterus (9).

I take it that it is not necessary to describe the uterus or its ordinarily accepted ligamentous attachments, for you are familiar with these, but there are a few points that should be emphasized. The uterus, normally, is a freely movable organ and what constitutes its normal position is a matter of dispute. In fact, it may have a limited latitude of motion and still be within the bounds of normal. Cunningham states that the uterus occupies a position at right angles to the vagina when the bladder is empty. Bissell (10) has shown by experiments on the living, by introducing lead strips into the vagina and uterus and then x-raying the patient, that the uterus joins the vagina at an angle of 170 degrees, and that the vagina occupies a plane at an angle of 144 degrees with the horizon. For practical purposes, however, we know that the uterus occupies a position with its long axis parallel with the horizon when the patient is in the erect position and the bladder empty. A point not usually recognized is that the round ligament passes outward in the anterior fold of the broad ligament, then takes a course upward and outward to the internal abdominal ring. The broad ligament's anatomy is well known, but a point not usually recognized is that this structure contains relatively a large amount of unstriped muscle fibre throughout, but more plentifully in its base near the location of the uterine vessels.

It would seem that from the standpoint of purely mechanical supports the structures concerned in the maintenance of the uterus in its normal position could be easily worked out. From an anatomical point of view it is clear to my mind that the levator ani muscle plays a very minor role in the support of the uterus. This is borne out clinically and practically by the fact that there is not a sufficiently close causal relationship between tears, of whatever magnitude, of the perineum and displacements or prolapse of the uterus. Complete prolapse is not uncommon in virgins or nullipira. Von Radwanska (11) reports fourteen known cases of complete prolapse in the newborn, spina bifida being present in twelve. J. R. Judd (12) reports a prolapse of the third degree in a nullipara of twenty-one. These cases must certainly not be uncommon, for I have seen three cases recently of complete prolapse—one a para-one, another a para-two, with no appreciable tear in the perineum, and a prolapse of the second degree in a woman who has never had a child. Again, complete tears of the perineum may occur with rectocele and cystocele without displacement of the uterus, certainly not prolapse. Lastly, surgical rehabilitation of the perineum *per se* has never resulted satisfactorily in the cure of displacements or prolapse.

It is pertinent at this point to ask, then, What are the forces which, acting separately or concertedly, maintain the uterus in position? Elsewhere in the body fascial bands and peritoneal reflections are relied upon for support of organs, and if similar structures related to the uterus are not of great value in their relation to the uterus, nature has been more prodigal in her waste than is usual. Through the law of adaptation to the functional requirements of the uterus, a plenteous supply of muscle fibre has been provided in these structures to restore this organ to its normal position after wide excursions due to transient encroachments of neighboring organs or the enormous displacement due to pregnancy. Nowhere in the animal organism is muscle required to perform constant duty so that it is logical to conclude that here, too, we must look for permanent support, not in muscle, but in the connective tissue. Furthermore, our clinical experience has shown that in the care of herniae, our reliance for cure is based on the integrity of the fascia and not the muscle. Emmett, in 1884 (13), and Schauta, 1896 (14), emphasized the importaoce of the pelvic fascia in the role of uterine support. The advent of Halban and Tandler's work (15) in 1907 seems to have turned all attention to the pelvic floor. This idea is being shown as untenable by work such as Cameron (9), Blaisdell (16), John T. Williams (17), Bissell (10), and others have done.

In mentioning the anatomy of the pelvis above, the fourth series comprised: (*a*) peritoneum, (*b*) a fibro-elastic and smooth muscle layer, and (*c*) the pelvic fascia—considered from above downward. To consider the pelvic fascia as a mere reflection from the white line over the levator ani muscle is to have a false conception of the real anatomy of this structure. The arcus tendineus, extending from the spine of the ischium to the base of the bladder, supports this latter structure and fixes its attachment to the triangular ligament. From the arcus tendineus a reflection may be traced, the *fascia endopelvina*, which "goes to the pelvic viscera" (Poersol, 6). Mackenrodt (17) has described a firm band of connective tissue, which he calls the *ligamentum transversale colli*, attached to the supra-vaginal portion of the cervix and the pelvic walls laterally. This may be the same as the indefinite *fascia endopelvina* of Piersol. Blaisdell (16) quotes Ovenden (18) as finding very "little connective tissue between the layers of the broad ligaments, but at the level of the cervix, however, a thick band can be felt between the two layers of the peritoneum. It is wedge-shaped in section; the apex of the wedge is directed upward and is just above the level of the point of entrance of the uterine artery. Traced to its distal attachments, this band is found to be formed from strong fibrous connective tissue, continuous with that which comes through the sacro-sciatic notch. Some of the fibres appear to be attached to the sides of the third and fourth pieces of the sacrum." "Ovenden" (still quoting Blaisdell) "considers it inserted partly into the vaginal vault and lateral fornix, besides into the sides of the uterus for a short distance below the point of entrance of the uterine artery." These three descriptions of Piersol, Mackenrodt and Ovenden, while somewhat different, agree in essentials, and establish the fact that there is a strong fascia arising from the pelvis which is inserted into the uterine cervix and upper vaginal fornix.

In an exhaustive study of uterine supports with special reference to the sacro uterine ligaments, Blaisdell (16) in his conclusions states: "In woman, and the female of the higher primates, at least, the supports of the uterus are three in number—namely: First, the *suspensorium diaphragmaticum* (pelvis); second, *suspensorium peritoneale;* third, *suspensorium fibro-elasticum,* the latter being the chief and essential support, the others being accessory." "The suspensorium fibro-elasticum consists of fibro-elastic network supporting vessels and nerves, and contains the potential ligaments of the uterus and vagina." . . . "The potential ligaments are the *ligamentum transversale colli* of Mackenrodt, *ligamentum sacro-uterinum,* and the *ligamentum plico-vaginale.*"

These anatomical findings are in consonance with the clinical observation that in moving a uterus, when making a vaginal examination, the whole uterus tends to rotate about an axis which is located at the junction of the cervix and body. This observation was made strikingly plain in a recent case of pure retroversion in a very favorable patient for examination. The fundus of the uterus was found in the cul-de-sac with the cervix pointing toward the symphisis pubis. The uterus was easily replaced in its normal position, and rotated around the axis referred to above. This was repeated several times, it being an unusual opportunity to demonstrate to my class the two positions of the uterus.

Noble (19) has made some interesting experiments on intra-abdominal pressure by introducing a double concentric rubber bag covered with silk into a ventral hernia. A tube was connected with a Faught blood-pressure apparatus and the increase in intra-abdominal pressure made by various positions and muscular activity was noted. Similar experiments were made with the bag in the vagina under the cervix. By a rather ingenious device of dividing the entire peritoneal surface of the uterus into units, he attempts to show that increased intra-abdominal pressure upsets the normal equilibrium of the uterus and causes retro-displacements as well as decensus. Pressure either of liquid or gas within a closed cavity is exerted equally in all directions. If the walls are elastic and are of different tensile strength, as the pressure within increases, the weakest part gives way first. That is almost an axiom.

No matter what position a body may assume in this cavity or what amount of pressure may be exerted within the cavity, the position of this body remains unchanged, provided the body's support is maintained unchanged. If the body is supported on an elastic support and this support is so altered as to be overcome by the increased pressure, then the body may be altered in its position or even dragged from the cavity. The application to the uterus and its fascial support is evident. Increased intra-abdominal pressure acts in a detrimental manner to the position of the uterus only in proportion to the laxity or damage to the uterine support.

REFERENCES.

(1) Practice of Gynecology, W. E. Ashton, 1916.

(2) Text-Book of Practical Gynecology, D. T. Gilliam, 1916.

(3) Text-Book of Gynecology, W. S. Gardner, 1912.

(4) Gynecology, W. P. Graves, 1916.

(5) Diseases of Women, C. A. L. Reed, 1913.

(6) Piersol, Human Anatomy, 1917.

(7) Cunningham, Text-Book of Anatomy, 1909.

(8) Gray's Anatomy, 1908.

(9) Cameron, Jour. Anat. & Phys., 42, Series 3, P. 438.

(10) American Journal of Obstetrics, 1915, V. 71, P. 561.

(11) Von Radwanska, Gynak. Rundscau, 1913, V. 7, P. 515.

(12) Surgery, Gynecology and Obstetrics, 1915, V. 21, P. 250.

(13) Thomas A. Emmett, 1884, Principles and Practices of Gynecology.

(14) Schauta, 1896, Lehrbuch der Gesammten Gynecology.

(15) Halban & Tandler, 1907, Anat. ut. Aetiologe die Gental Prolaspe.

(16) Blaisdell, Frank E., S.r., Anatomical Record, 1917, V. 12, P. 1.

(17) Mackenrodt, A., 1895, Archiv. of Gyn., V. 48, P. 393.

(18) Ovenden, Ella G., Journal Anatomy and Physiology, 1907-7, V. 0, P. 308.

(19) Surg. Gyn. and Obstet., 1915, V. 20, P. 45.

SOME UNSETTLED POINTS IN THE ETIOLOGY OF APPENDICITIS.

By Drs. E. H. and J. P. Baird,
Daird-Dulaney Hospital,
Dyersburg, Tenn.

This paper is mainly a short resume of our personal observation in a number of cases of appendicitis in which the history given, and pathology shown, was such that the natural question of causative factor might arise. That is, the appendix was fairly normal from an anatomical standpoint, there was no special veil or band of adhesions present cutting off the blood supply, and no fecal concretions or foreign objects within the lumen.

You are all familiar with Rosenow's paper, presented before this Society at Nashville some three years ago. In that paper he presented a chart showing streptococcic metatases from a focus of infection, localizing in a certain number of cases in the form of a gastric ulcer, with secondary lowering in the rate of localization in the gall bladder; and primary localization in the gall bladder, with a secondary involvement of the appendix in a certain number of cases.

That paper not only stimulated our interest in the etiology of certain cases of appendicitis and other abdominal infections, but opened up a line of thought and observation in other infections. The vivid description with colored plates of osteo-myelitis given by the late Dr. J. B. Murphy in his "Clinics" is one of the most vivid pictures of metastatic infections that could be painted.

Concurrent or recent attacks of tonsillitis and other infections of the upper air passages given in the history of cases of appendicitis, especially in children, causes one to associate these cases together. Is the infection of the appendix separate and apart, or is it metastatic in character? It has become almost routine to examine the gums and teeth, and one who has not paid particular attention to this common focus of infection will be surprised at the frequency with which one will find the gums and teeth in bad condition, with quantities of pus oozing from the same. In a certain number of these cases pus was taken from the gums and from the gall bladder or appendix, and cultured. The predominating infection found in one closely corresponds to the other. This frequent nidus for bacteria is not only present in many cases of appendicitis, but some of the most virulent and widespread cases of metastatic abscesses, both of the bones and soft parts, that have come under our observation have been directly traceable to the pyorrhea present. It has become routine to institute treatment in these cases while in the hospital.

One of the most striking instances of concurrent infections occurred during last fall and winter. Our records show that five distinct cases of appendicitis occurred in connection with measles, three while the eruption was still on the body and the other two very shortly following the subsidence of the active symptoms. Pathology of the appendix was interesting, showing a general high inflammatory condition of the appendix, and in one instance the distinct eruption on the appendix closely resembling the skin manifestations of measles. In two of these five cases, while not gangrenous, the infection was so virulent and the perityphilitis so great that they required drainage. These were both in adult males.

Case History.—One particular instance of concurrent infection occurred about three years ago. This case has not been reported, and I have found but few similar cases on record. The case still remains more or less a mystery to my mind unless it was, as I believe it was, a distinct localization in the appendix of the general infection, the general symptoms of which appeared subsequently.

The case was one of a boy, age 12, previous god health except the history of intermittent, mild nasal and throat infection. The appendix became involved and the usual history of localized pain, rigidity, slight rise in temperature, nausea and leucocytosis occurred. Four physicians saw the case and concurred in the diagnosis and as to the advisability of operation. We removed the appendix, found it congested and swollen, and in an active inflammatory state.

There was a cessation of the symptoms and nothing unusual occurred for forty-eight hours. Temperature dropped from 101 to normal, but pulse rate remained high. At the end of forty-eight hours, rigidity of muscles developed, with some drawing backward of the spine, and in eight hours the temperature had risen to 100 and pulse to 130. Spinal puncture was made and showed no cloudiness, but the leucocyte count rose to 30,000. Rigidity increased, and in two hours a second spinal puncture showed some cloudiness. Meningitis serum was administered, but the case gradually progressed to almost complete rigidity of muscles, opisthotonc(vonvulsions, coma and death in twelve hours from cerebrospinal meningitis.

Another instance of the concurrent acute type occurred in a soldier boy who had been vaccinated. The general symptoms and reaction from the vaccination clouded the history somewhat, but we performed an operation and found the appendix gangrenous and necessitating drainage. However, in this case the appendix was in a chronic enlarge condition, the predisposing cause being anatomical and the exciting cause the vaccination, only further proving the hematogenous character of the infection.

In our contributing territory it seems that the virulent infections are more prevalent and widespread than in other locations in which it has been our privilege to practice and observe the work of others. This may be due to the lower altitude, warmer, more moist climate and lowered resistance due to a subacute malarial condition, or it may be due to the fact that these local spots of infection in the body are not properly cleaned up and kept clean. But we are reasonably certain, from close observation and tabulation of cases, that in proportion to population in certain districts there is a decided higher percentage of appendicular infections in some localities than in others. The prevalence of vegetable diet in some localities has been mentiond as lessening the predisposing causes. However, this does not mean that a diet of prepared breakfast foods will cure appendicitis, as asserted in some of their advertising literature.

It is notice that digestive disturbances, irregular eating and gorging the stomach with the various indigestibles found in the present-day menus very frequently precede and undoubtedly are an influence in bringing on an acute attack or chronic irritatio of the appendix. We are frequently asked by the layman to explain why it is that appendicitis is so much more common now than in years ago. Of course we know and explain that it was not recognized and diagnosed. In many cases ''ignorance was bliss'' to them, while in many others ''ignorance was death.'' But, in fact, it is more than likely that the increased hyperaemia thus produced furnishes a common predisposing cause.

It might be interesting to here mention that as far back as 1750 Mestivier, of France, reporte da case of perforative appendicitis, but subsequent reports during the following decades were few and only the results of autopsy until aseptic surgery and investigation of the pathology eliminated, to a great extent, its fatal results.

Acute cases of appendicitis are more frequent in males than in females, but the great prevalence of this infection in a sub-acute stage in gynecological cases has been noticed by nearly every surgeon doing this class of work. It has been stated that this is probably due to the greater blood supply in females through the ''appendicular ovarian ligament of Clado,'' but this has been disputed, and more than likely is due to the different modes of life of the two sexes and the increased blood supply that physiologically involves the pelvis and adjacent organs in the female. hTe ever-present infections involving the nterus, tubes and oaries easily spreads by direct continuity to the adjacent appendix. I would say 75 per cent of our gynecological cases show secondary inolvement of the appendix; consequently our routine is to remove the appendix in practically all cases.

In males the better development of the psoas muscles and any extreme exercise or wor kinvolving this muscle has been mentioned as a predisposing cause. We can see no particular bearing this would have unless it is productive of increased hyperaemia of the parts.

The increased amount of lymphoid tissue in the appendix, especially in children, and the known lowered resistance to infections of this tissue, probably accounts for the large percentage of attacks in children, either following or concurrent with upper air passage infections, and leaves very little doubt as to the hematogenous character of same.

Anatomical displacements of the appendix, malformations, bands, kinks, all tending to hyperaemia, naturally make a fertile field for pyogenic localization. An interesting case of anatomical displacements occurred in the clinic of Dr. John B. Deaver, Philadelphia, that I was privileged to observe on my way to the A. M. A. meeting in New York last year. The appendix was gangrenous, due to a displacement in a hernial sac.

The narrow caliber of the canal is easily occluded. A catarrhal swelling of the mucous membrane of the caecum easily closes the appendix and ofttimes foreign substances are retained within the lumen. This produces a local condition which is very favorable for infection. Previous inflammatory attacks, with their r esultant abnormal anatomical condition, are predisposing causes. Foreign bodies in the appendix are rare. However, two cases are recalled along this line, one in which there was heavy hair, and in another a 7½ size bird shot.

In regard to age, our records show the great majority of cases occurring in children over five years of age and young adults. However, one case, which progressed to rupture and abscess formation, and in which was found a large focal concretion, occurred at the age of two and one-half years. At the other extreme the age limit was 70. This case also contained concretions in the appendix and was severe in character. Happily, both made an uneventful recovery.

Direct injury from external violence is very rare, but can occur, as is shown by a case occurring about three years ago in our practice in which a rent in the bowels close to the appendix was produced by a blow from a stick of wood. There was little external evidence of the gravity of the case, and exploratory operation was too long delayed, and the case died. However ,if I might be permitted to digress from my subject for a moment, traumatism, while rare from an etiological standpoint, may have an important bearing on the seriousness of the case. In one particular case, which we reported to the West Tennessee Society, and in another, which occurred later, the appendicular artery was ruptured through too violent exercise of the patient on his way to the hospital, and the blood and pus filled the lower peritoneal cavity at the time of operation.

Another entirely too frequent cause of injury is the use of the high enema, after diagnosis has been made in acute attacks. Our records show five cases occurring in the past five years in which the enema had been pshed through the hole in the appendix, spreading the infection broadcast through the peritoneal cavity. Two of these cases I mentioned in the discussion of Dr. McGannon's able paper on appendicitis at Nashville, three years ago. The other thhree have occurred since. However, these are mentioned as having a bearing on the severity of the case, and are not cited as primary etiological factors.

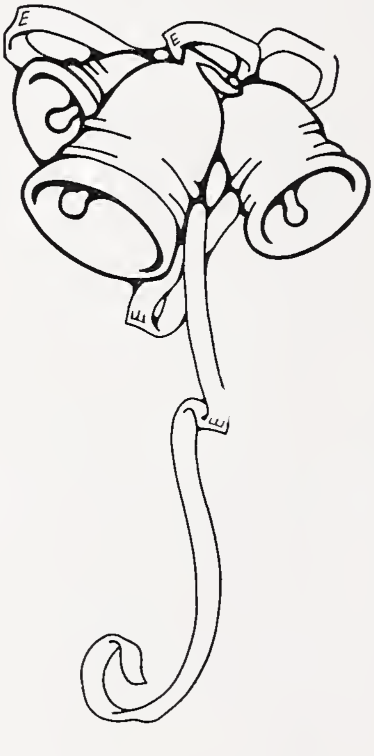
Until recent years the infection in the appendix was thought to be due to direct continuity from the bowels, but the work of Billings, followed by the most painstaking and thorough work done by Rosenow, seems to prove that in most of our cases of appendicitis the invading bacteria gains access to same by way of the blood stream. These bacteria may be free from the different foci of infection in the body which have been mentioned, or to concurrent acute infectious diseases as mentioned in this paper. Allow me to quote at this point from Rosenow's very interesting paper, published in 1916, in Journal A. M. A.:

"The demonstration of streptococci in the focus of infection at the time of an attack of appendicitis that has an affinity for the appendix when injected intravenously into animals, it seems to me, is good evidence, together with all the other facts, that the growth of an organism in the throat or in the focus of infection is primary, and that that disease of the appendix is a result of this, not by swallowing of the bacteria, but by embolic infection getting into the circulaton and finding in the appendix a favorable spot for its growth. When you couple that with the fact that when the attack is over you can go back and make cultures from the same spot, and inject animals in the same way with cultures made as before, and not one animal in the series develops a single lesion, you have evidence of the cause of appendicitis. If you have a case of arthritis you say it is an embolic infection; why not here Aschoff and others assert that mechanical factors play an important role in the causation of appendicitis. They say that the first attack of appendicitis is due to a previous infection which causes the formation of fecal concretions, and hence the mechanical factor. I feel that these things are primary and the other things secondary. The same thing can be said with reference to cause of ulcer of the stomach and of cholecystitis. We have heard much in regard to the importance of various foci of infection. The breaking of the continuity of the skin or mucous membrane anywhere should be regarded as a serious matter. We know the relationship of slight abrasions to highly virulent streptococci infection. After demonstrating the presence of bacteria of low virulence in this type of infection in cases of cholecystitis and appendicitis, why not believe they are also important. The focus is not only the place of entrance, but also the infection antrium. The transmutation of streptococci has been established. In one instance there is an affinity for joints; in another, for the appendix; and in still others, for the stomach and the gall bladder. These types of streptococci are so much alike in their cultural characteristics and morphylogy that it is difficult to differentiate them, but when injected as isolated, they are different in their actions in animals."

While appendicitis is pre-eminently a bacterial disease, other causes which have been mentioned by various writers in the past must be given due consideration, especially as predisposing or immediately exciting in character.

Ruling out the minor class of attacks of appendicitis due to carcinoma, typhoid and tuberculosis, might we not say that in clearing up the various foci of infection in the body that we can eliminate a great percentage of these attacks? This will, of course, leave a certain number of cases that are undoubtedly due to concurrent infections, of which a number of personal instances has been cited in this paper, and which further proves that the appendix is a particularly weak spot for

To the Fellows of
State Medical As



h
i
o
th
o
to
d
g
th
h
b
fu
b

Tennessee
tion

he will to serve
he strength to serve
he opportunity to serve

yours during the eventful year now clos-
record of service, at home and abroad, is
ch you may rightfully be proud. ❦❦❦❦❦
rnal, glad in the record you have made,
r the triumph that has come to the forces
er might which your service has helped
bout, honoring you for your devotion to
your loyalty to the ideals of medicine;
r the kindness of Providence thru which
of our brethren who have endured the
and dangers of war in foreign lands have
erved, wishes that your Christmas may be
ppiness. ❦ ❦ As for the New Year, may it
ou, in abundance, ❦❦❦❦❦❦❦❦❦❦❦❦

he will to serve
he strength to serve
he opportunity to serve

blood stream localization either of old foci or of acute infections.

REFERENCES.

DeForest, H. P.: Causes of Appendicitis. New York Medical Journal, Sept. 15, 1917.

McMeans: Experimental Appendicitis. Archives of Internal Medicine, May, 1917.

Chase: Etiology of Appendicitis. American Journal of Obstetrics, March, 1916.

Gurney, H. M.: Cause of Appendicitis. British Medical Journal, May 29, 1915; Abstract, July 3, 1915, p. 58.

Rosenow, E. C.: Etiology and Experimental Production of Appendicitis, Ulcer of Stomach and Cholecystitis (Society Proceedings), The Journal, May 1, 1915, p. 1524.

Lansdown, R. G. L., and Williamson, G. S.: Etiology of Appendicitis, Gastric Ulcer and Allied Coditions. British Journal of Surgery, October, 1914.

NEW HOME OF THE H. K. MULFORD CO.

Having outgrown their present pharmaceutical laboratories, the H. K. Mulford Company have purchased and will soon occupy the modern building located at Broad, Wallace and Fifteenth Streets, on Philadelphia's main thoroughfare, six blocks north from the City Hall.

The building is of modern construction, being fireproof throughout, of steel, concrete and stone, nine stories in height, and has a total floor space of nearly ten acres.

All equipment is of the latest type used in building construction, and includes four electric passenger elevators, four electric freight elevators, with a capacity of twelve tons; four enclosed fire towers for the safety of the occupants; electric generating machine; mail chutes, artesian wells, etc.

The structure will be further equipped with modern labor-saving devices, and when occupied will house the general offices and the drug, chemical and pharmaceutical departments, which are now distributed over a number of buildings in several locations.

This will be the largest building in the world devoted exclusively to the production of medicinal products. It will be a worthy peer of the Mulford Biological Laboratories, located at Glenolden, Pa., which are recognized as the largest and most complete in existence.

The rapidly increasing business at home and abroad has necessitated this expansion, and the new premises will enable the H. K. Mulford Company to fulfill the long cherished aim of making the Mulford standard of service equal the Mulford standard of quality.

STERILIZING THE NASOPHARYNX.

Evidence is accumulating of the value of Dakin's antiseptics for sterilizing the throat and nose of persons exposed to or suffering from Spanish influenza and other diseases transmitted by the secretions of the upper respiratory tract. The simplest and most convenient of these remedies to use is chlorazene, which is available in tablet form for the preparation of aqueous solutions, which may be used for spraying or gargling. Such solutions are convenient, can be made up by anyone with ordinary intelligence, and are exceedingly efficient.

When possible the aqueous solution should be supplemented by the oil spray of Dichloramine-T dissolved in chlocosane, a 1 to 2 per cent solution being employed for this purpose. This should be applied at least twice daily, where possible by the physician himself, or by the nurse. The use of Dichloramine-T assures prolonged contact with the mucous membrane of an exceedingly powerful germicide, which can be used without danger to the patient.

The extensive experimental work conducted by the Abbott Laboratories, preliminary to placing the Dakin products at the disposal of American physicians, seems to be justified by the splendid results which are being obtained.

The Memphis and Shelby County Medical Society is preparing to present some important matters to the next Legislature, with a view to securing progressive legislation. We are informed that one of the proposed laws has to do with the prevention of the marriage of persons with venereal disease.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

DECEMBER, 1918

EDITORIALS

SELECT THE BEST.

The time is at hand when officers must be chosen to direct the affairs of local medical societies for the coming year. These officers should be chosen with due care, and should not be chosen without thoughtful consideration concerning their fitness and merit. The world is undergoing a wonderful change, and whoever and whatever would not be left behind must change with it. There can be no doubt but that medicine will undergo great changes, too, and it is essential that the men who are put into representative places must be those who have the qualities of leadership and who have the courage and the sense and the broadness that are necessary to right leadership in momentous times.

A NEW MEMBERSHIP YEAR.

It must not be forgotten that a new fiscal year begins with January 1, 1919, and that membership dues are payable on that date. County secretaries should remind members of this fact, and should collect and forward 1919 dues as promptly as possible to the central office of the Association.

The year that is now closing has been a most remarkable year in the history of the world. In no way has it been more remarkable than for the part that has been played by the medical profession in all civilized nations. The men of medicine have gone out to the battle front in numbers sufficient to meet all demands, and theirs has been no small contribution to the gaining of the ends for which the forces of right and justice have battled victoriously. The men of medicine at home have well met their duty, not only as their duty has led them into the fight against disease and death from common causes, and not only as it has brought them into an extraordinary combat against epidemic disease, but also as their duty has demanded tremendous sacrifice of time and personal effort and money, to say nothing of the shouldering of soul-racking responsibilities in connection with the work of exemption boards and other army making organizations; they have also done a noble part in helping our Government, and the Red Cross, and the Y. M. C. A., and the Knights of Columbus, and all other institutions which have found it necessary to ask for money in order that their several activities might be properly maintained and that our fighting men might have what they needed.

It may be true that there have been a few shirkers in the ranks, but, thank God, their number has been so small that their example has been made to stand out in such bold relief that the world has seen their infamy and has, at the same time, been forced to see in its magnitude the real service of the real medical profession and to truly mark the willingness with which that service has been given.

None would be foolish enough to say that a man outside the pale of organized medicine may not be fully as patriotic as one identified with organized medicine. But we want to bring this fact home: The men who have been selected for military medical service, the men who were selected for service on exemption boards and on advisory boards, the men of the medical profession who were selected for any sort of responsible duty which in any way had to do with the prosecution of the war were, for the larger part, men from the organized medical societies of this land. It is probably true that more doctors in tre United States are identified with medical societies than are not so identified, but it is more positively true that a far larger proportion of the first class were in positions of leadership and responsibility in all war activities than of the second class. And the same thing is true in civil life. To identify yourself with organized medicine is to identify yourself with all that is best for medicine and for humanity.

It is remarkable that the membership of

the Tennessee State Medical Association has held up almost to the standard of its best years during 1918. On December 7, the day this is written, our membership roll carries 1,572 names, only forty-seven under the entire number enrolled in 1917, in spite of the fact that our county societies outside the larger centers have been forced into comparative inactivity by reason of the absence of some six hundred or more members gone into war service, and further, because the tremendous demands made upon those who were left at home made it impossible for them to attend society meetings and otherwise carry on the usual activities of these organizations. The membership has been maintained so well because nearly all local societies kept on their rolls the names of all members who were called to the colors. This was a fine thing to do, and nothing less would have been right.

And now the war is nearly over and it will not be long until the medical profession will settle down to its duty in civilian life. The boys will soon come marching home, and with them will come our fellows who have ministered to them. Let us be sure to see to it that the fires of organized medicine in Tennessee are burning brightly and that we are holding the lines upon which they will again take up their stations.

We must have every 1918 membership renewed and must secure the enrollment of every eligible man who can be any means be brought into the fold. And not one name of all of those who are yet away in the service of our country must be left off.

THE 1919 ANNUAL MEETING.

It is, of course, rather early to be writing about medical society meetings for next spring, but the termination of the war gives us time to turn our attention to events of this character which, had the war continued through the winter, doubtless very generally would have been deferred until a more favorable time, or else, had the meetings been held, they would have been so meager from the standpoint of attendance and contributions to their programs, that they would have been classed as failures. But now, with the war over, and every prospect of a large proportion of the membership of the medical societies having once again returned to civil life and the pursuit of professional routine, the indications are that the spring meetings of the state and other medical societies will be unqualifiedly successful.

We are naturally deeply interested in the prospects for the meeting of our own state medical association. The 1919 meeting of this association is to be held in Nashville, and the meetings in Nashville, because of the central location, have always been largely attended, and there is every reason to think that the meeting next April will be one of the best attended that the association has ever held. Numerous of our members were already in the service at the time of the Memphis meeting last April, and so failed to have an opportunity to attend, and they will be keenly alive to the opportunity of attending the next meeting of their state medical association. There will be much of interest that can be told at this meeting by these medical officers, and doubtless military medicine and surgery will occupy an important place on the program.

Yet it is not only military surgery that will occupy the interest of the members of this association, for most of them will have but an abstract interest in this kind of surgery, but there are many other topics in medicine which will be pertinent for discussion at the time.

Among these, and prominently so, is that of the recent epidemic of influenza, which came upon us so suddenly, and which so rapidly spread over the entire country, and which was so appallingly fatal in a large number of those afflicted. The experience of the members of the association with this disease will be interesting and instructive, and we hope that the program will bear the titles of several papers on this subject written by members of the association who have had an opportunity to observe large numbers of these cases, and who have the clinical training which will enable them to present their views in an analytical manner. We shall look forward to the clinical and pathological study of this epidemic which should be presented to this meeting.

The Volunteer State has made a splendid

record for medical men who have gone into the military service, for war work, for subscriptions to the Liberty Loans, and for all allied lines, and now we hope that the 1919 meeting of our state association will break all previous records in attendance and scientific interest, and that the meeting will be characterized, in the words of the vaudevillian, by "wim, wigor and witality."

TO COUNTY SECRETARIES.

Our fiscal year ends December 31, 1918, and on the very next day an entirely new fiscal year begins. The records for 1918 will be closed on the last day of 1918, and the records for 1919 will be opened on the first day of 1919. We would earnestly ask of county secretaries that the records may be kept straight and right up-to-date. Meetings of all county societies should be called during the month of December for the purpose of perfecting organization for 1919. It will greatly help to keep the records straight if 1919 dues are collected and forwarded to the state secretary at the earliest possible time, together with a complete list of names of all members who have paid these dues.

It is highly important that the correct addresses of members should be sent in, since every name must be entered upon the books of the Association and upon the mailing list of the Journal.

Get every man!

RECOMMENDED FOR COMMISSIONS.

The following names of Tennessee physicians recommended for commissions in the Medical Officers' Reserve Corps of the army appear on lists recently received by the Journal. Many of them have been commissioned and several have been on duty for some weeks. The purpose of the Journal has been, and still is, to publish the name of every man who has been recommended for commission, but it has been hard to secure the names:

George Benjamin Brown, Atoka, first lieutenant; Samuel Egbert McDonald, Bells, first lieutenant; William Henry Smith, Brunswick, first lieutenant; James Lewis Leitch Bibb, 815 Hamilton Bldg., Chattanooga, first lieutenant; Thomas Herbert Elliott, 720 James Bldg., Chattanooga, first lieutenant; Ernest White Patton, 439 Forest Ave., North Chattanooga, first lieutenant; Raymond Orestes Kibler, Cleveland, captain; Elisha Bertram Paschall, Cottage Grove, first lieutenant; Ferris Albert Niles, Daysville, first lieutenant; Wilfred John Hewson, Ducktown, first lieutenant; Ernest Houston Baird, Dyersburg, first lieutenant; John Brown Berry, R. F. D. 5, Dyersburg, first lieutenant; David Lawrence Flanary, Dyersburg, first lieutenant; Robinson Beard Flaniken, R. F. D. 1, Kerrville, first lieutenant; Henry Martin Cass, 212 E. Unaka Ave., Johnson City, captain; George Garfield Keener, Kingsport, first lieutenant; James Victor Henderson, Knoxville, first lieutenant; Grover Cecil Hutson, 417-19 Holstein Nat. Bank Bldg., Knoxville, first lieutenant; Charles William Bain, Box 521, Knoxville, first lieutenant; Frank LeRoy Young, 425 W. Clinch St., Knoxville, captain; Luther Layton Bicks, Laconia, first lieutenant; Charles Raymond Haley, 115 Sterling St., Martin, first lieutenant; Harry Lee Alexander, McKenzie, captain; Charles Aden Allen, 189 Evergreen St., Memphis, first lieutenant; Abraham Louis Blecker, 397 N. Manassas St., Memphis, first lieutenant; Henry Garland Hill, 906 Exchange Bldg., Memphis, first lieutenant; Joseph Waymon Mason, 606 Chelsea Ave., Memphis, first lieutenant; John Clinton Mobley, Memphis, first lieutenant; Fontaine Bruce Moore, Memphis, first lieutenant; Charles Watson Robinson, 1047 Seattle St., Memphis, first lieutenant; Espy Milo Williams, 958 South Fifth St., Memphis, first lieutenant; Abner Theodore Clopton, Milan, first lieutanant; Harry Lee Ellison, Millington, first lieutenant; Wilbur Gleason Ruble, Morristown, captain; William Oliver Floyd, Delta Tau Delta House, Nashville, captain; William Abraham Horan, 913 N. First St., Nashville, first lieutantn; Charles Franklin Thomason, 301 Jackson Bldg., Nashville, first lieutenant; Thomas Hugh Young, Nashville, first lieutenant; Paul Swift Williams, Oakdale, first lieutenant; Samuel Thomas Woodruff, Pleasant View, first lieutenant; George Washington Smither, Rutledge, first lieutenant; Arthur Gilbert Bentley, Quito, first lieutenant; Eugene Angelo Gilbert, 4612 Alabama Ave., St.

Elmo, first lieutenant; Owen Hassell Williams, Savannah, first lieutenant; Roy Henry Ruble, Washington, Col., first lieutenant; William Frank Turner, West Point, first lieutenant; Herman Renner, 525 Volunteer Bldg., Chattanooga, first lieutenant; Ray William Kinsane, Dyersburg, first lieutenant; Fred Charles James, Gadsden, first lieutenant; James Lynn Dunavant, Glimp, first lieutenant; Talmai Zethar Elinor, Greenfield, first lieutenant; Emmet Dewitt Moyers, DuPont Hospital, Jacksonville, first lieutenant; John Doak Capps, Livingston, first lieutenant; Herman Spitz, 319 Doctors' Bldg., Nashville, first lieutenant; Luther Samuel Love, Silver Point, first lieutenant.

NEEDED LEGISLATION.

By DR. JOHN L. JELKS,
President of the Society.

There is some legislation very much needed in this state to which I beg to call your attention at this time, and that immediate action be taken, and same referred to your State Senators and Legislators, with the request that they act favorably upon the same. I have requested the presence of these gentlemen this evening, in order that we may counsel with them.

First. This state has no laws governing or preventing marriages of men and women who have active and communicable diseases, such as syphilis, gonorrhea and tuberculosis. Such laws are in effect in many states.

At my request a law is being drafted by Judges Israel Peres and R. M. Barton, requiring a clean health certificate by both contracting parties. This law is being framed to conform with those of other states.

Second. The next matter to which I would respectfully call your attention is that all kinds of "quack doctors" and patent medicine venders infest this state, and there is no law to protect against them which carries with it a fine greater than twenty-five dollars, or which carries any adequate punishment for preying upon the ignorant and unsophisticated.

Third. A law to require hospitals to keep case records with diagnoses, operations performed and tissues removed, to maintain a working laboratory, and to retain the services of a technician whose duties are to make examination of blood, urine, removed tissues, etc., as required by the American Board for Standardization of Hospitals of the American Medical Association.

Fourth. A law to forbid the sale of milk, by either dairy or private owner, from any cow for which tuberculin tests have not been made within the year previous to said sale, and proven non-tubercular.

Fifth. An ordinance has recently been passed at our instigation which requires all active communicable venereal diseases to be reported by physicians and druggists who treat same. This ordinance has never been enforced—in fact, it is being ignored by authorities, and the doctors have never received instructions as to their duties in this matter. Yet the United States Government requires this in the army and cantonments, and has been insistent that states and municipalities enact and enforce such laws.

If these laws are known to be necessary and for the welfare of the young men in army life, they are as necessary, and should be as applicable, to the young men in civil life.

Therefore, I beg the gentlemen who are to govern and control the destinies and happiness of the people of our state, by their deliberation and enactments, that they cause a state law to be enacted requiring all communicable venereal diseases to be reported by serial numbers which will conform with the same as a record kept in the physicians' offices or hospital, and, in persons of prostitutes, by name also.

NOTES AND COMMENT

The State Board of Health met at Nashville on December 10 and 11. Reports made to the Board show that the work of the department continues to grow normally. Proposed budgets for 1919-20 were approved and

---

*Address to the Memphis and Shelby County Medical Society, and to the State Representatives.

plans for the future work of the Board were outlined.

The name of Dr. W. H. Tanksley, Nashville, was inadvertently omitted from the list of names of members printed in last month's Journal.

Dont' forget to forward birth certificates to local registrars. Be careful to give complete information as to causes of death and contributory causes on death certificates.

Dr. S. W. McFarland, Secretary of the Wilson County Medical Society, was the first county secretary to report names of members for 1919 enrollment. His report was quickly followed by that of Dr. R. Y. Fisher, Secretary of the Decatur County Society.

The Journal will have some more new advertisers in January. Look to see who they are, and don't forget them when you go to buy.

Dr. John Overton, after two years of service in the Philippine Islands and in China, has returned to Nashville and has opened an office in the Doctors' Building.

The Nashville Academy of Medicine proposes to take drastic action with regard to its members who prescribe excessive amounts of narcotics for drug addicts. Such members will be expelled.

DYER COUNTY SOCIETY.

The Dyer County Medical Society held its regular monthly meeting in the courthouse on Thursday night, December 5. The following officers were elected for the ensuing year:

Dr. E. H. Baird, president; Dr. T. D. McDougal, vice-president; Dr. M. E. Rust, secretary and treasurer.

Dr. T. D. Rice was elected State delegate; Dr. J. P. Baird, alternate; Dr. O. Dulaney, censor; and Dr. W. W. Holland was re-elected censor.

The following new members were elected to membership: Dr. Yeath, Dr. B. G. Marr and Dr. D. A. Sherrill.

Physicians from neighboring towns have been invited to address the society at the next regular meeting, the first Thursday night in January. M. G. RUST, Secretary.

Dec. 12, 1918.

SULLIVAN-CARTER-JOHNSON.

Bristol, Tenn., Dec. 17, 1918.

On the first Wednesday in December the Sullivan, Carter and Johnson County Medical Society held its annual meeting in Bristol. The election of officers for 1919 resulted in the selection of Dr. J. V. Jordan, of Hampton, Tenn., as president; Dr. J. C. Cottrell, of Mountain City, vice-president for Johnson County; Dr. C. M. Cowan, of Bristol, vice-president for Sullivan, and Dr. N. D. Robinson, of Carter, Tenn., as vice-president for Carter County; Dr. W. K. Vance, of Bristol, secretary and treasurer.

In order to try to stir up a little more interest among the physicians in this section in their medical society, by unanimous vote of those present, the secretary was instructed to invite Dr. J. A. Witherspoon, of Nashville, to be the guest of the society at its next meeting, on January 1, 1916, and deliver an address on any subject he may select.

Yours truly,

W. K. VANCE, Secretary.

MISCELLANEOUS

PNEUMONIA.

L. S. Medalia (Boston) and N. S. Schiff (New York), Camp MacArthur, Waco, Tex. (Journal A. M. A., Nov. 30, 1918, report on two series of cases of lobar pneumonia at the base hospital. In the first, thirty cases were treated in the routine way with polyvalent anti-pneumococcus serum. The second series was a study of twenty cases, in which more complete laboratory methods were used; blood cultures, leukocyte counts, type determination, and the use of Type I serum in the cases found to be due to Type I pneumococcus. Positive blood cultures showed Types I, II, and IV. Only two deaths occurred, and they were both among those with positive blood findings, one in Type II and the other in Type IV. The cultures were kept under observation for from five to seven days and examined daily, before a definite negative report was made. It is significant that in the fifty cases of the two series, there were no Type III cases, and the authors remark that it would be of interest to know whether this type of pneumococcus was rare in other camps, generally. This seems to have been the case at Camp Houston, Camp Pike and the Rockefeller Institute. There was a marked difference in the mortality of the two series. In the first, which was observed in the cold months of the year, when the disease might have been expected to be most severe, it was nil, the disease becoming much worse when the weather was milder. The general treatment was the same and was carried out by the same ward surgeon. The general impression made was that cases treated with polyvalent serum, as a routine measure, were much milder and better than those in the second series when only the Type I patients received serum treatment. The facts strongly suggest the advisability of using a polyvalent serum as a routine measure, at least until such time as monovalent serums can be produced against the respective individual types. The important thing in the use of antiserum is the avoidance of anaphylaxsis, which may be accomplished by the intradermal and subcutaneous tests. "The technic as followed in this hospital is the administration intradermally, on the flexor surface of the upper arm, of 0.5 c.c. of a 1 per cent antipneumococcus serum in sterile saline, controlled by 0.5 c.c. of saline solution introduced at points from 3 to 4 cm. apart on the same level of the skin, followed, if negative, in fifteen minutes by 1 c.c. of straight serum subcutaneously. If the subcutaneous test is found negative, it is followed one hour later by 50 c. c. of polyvalent serum intravenously. This dose is repeated from every twelve to twenty-four hours until the temperature, respiration and pulse warrant its discontinuation." This test, if properly carried out, the authors say, should do away with the objection to the use of polyvalent antipneumococcic serum of unquestionable potency as tested by the United States Public Health Service, in all types of pneumococcus infection.

FINE!

The profession will no doubt be interested in the recent announcement of The Owl Drug Company stating that, beginning December 1, no preparations for the self-treatment of venereal diseases will be sold in the twenty-nine retail stores of the company, located on the Pacific coast and in the Middle West.

When such preparations are called for the salesman is instructed to explain the new policy of the company and give the customer a carefully prepared confidential circular, which explains the seriousness of all venereal diseases and the importance of consulting a reliable physician, and a list of such will be furnished upon request.

Standard preparations, recognized by the profession, will be carried in the prescription room and sold only upon orders from a physician.

Some weeks previous to this announcement the laboratories of The Owl Drug Company discontinued the manufacture of several preparations for self-treatment.

This innovation was decided upon after the management gave due consideration to the report of the Surgeon-General of the United States army showing an alarming prevalence of venereal diseases among the civilians who were examined preparatory to entering the army.

The action of other druggists will be awaited with interest.

PRELIMINARY REPORT ON CARBON TETRACHLORIDE VAPOR AS A DELOUSING AGENT.

B. M. H. Foster, Surgeon,
United States Public Health Service.

The effectiveness of dry and moist heat and hydrocyanic acid gas as a means of destroying body lice on clothing has been thoroughly investigated. These processes, while effective, require the use of somewhat complicated apparatus, which is not easily transported, and not always available for troops in actual warfare. Also, in civilian life the problem of cleaning up lousy clothing without special appliances occasionally presents itself in jails, small hospitals, asylums, camps and even the home.

In the search for some practical method of destroying lice which could be applied with simple apparatus and which would not injure woolen fabrics, the writer was led to investigate the effects of carbon tetrachloride vapor.

Carbon tetrachloride is a heavy, colorless fluid, with a slight fruity odor, and is extensively used in fire extinguishers, as a solvent for many substances in the arts, and also as the chief constituent of certain proprietary cleansing fluids on account of its great power to dissolve fats. The vapor of carbon tetrachloride is heavy and instantly extinguishes combustion. As an insecticide it has not attracted much attention, but it appears to be very toxic for flies, ants, potato bugs and lice.

The effect of carbon tetrachloride vapor was contrasted with that of gasoline and chloroform in regard to its effect on flies. The vapor of carbon tetrachloride was found to be much more toxic to these insects than either of the other two.

The pure vapor killed unprotected lice in fifteen minutes, but failed to destroy them in ten minutes.

The effect of the combination of gasoline and carbon tetrachloride vapor was determined, the proportion being 1 part of gasoline to 2 parts of carbon tetrachloride. The vapor from this combination was inflammable, but the mixture was by no means as efficient as the same amount of carbon tetrachloride.

Having in view the delousing of soldiers' clothing in places where complicated apparatus could not be obtained, after a number of preliminary experiments the following method was thoroughly tested:

A ten-gallon tin can, such as is used for shipping liquid disinfectants, was obtained. This can was twelve inches in diameter, nineteen inches high, sheathed with a light wood covering, and weighed five and one-half pounds. The top was cut out so that clothing could be introduced and removed readily. In making the tests the complete clothing of a United States army private, consisting of hat, olive-drab woolen blouse, olive-drab woolen breeches, leggins, socks, woolen underdrawers, woolen undershirt and olive-drab woolen shirt, was placed in this can, each article being fairly firmly rolled up. A soiled shirt, badly infested with lice, was cut into four pieces. Each piece of the shirt was rolled fairly tightly and then further wrapped in ten thicknesses of ordinary sheeting. One piece of this material containing 90 live lice was lightly wrapped in the olive-drab breeches and placed near the bottom of the container, another holding 98 live lice was tightly wrapped in the middle of the blouse and packed near the top of the contents. The complete outfit of wearing apparel was placed in the tin and pressed down rather firmly, occupying a little more than one-half of the total space. Several layers of filter paper were laid on top of the clothing, and on this paper 25 c. c. of carbon tetrachloride was poured. The top of the can was covered by several thicknesses of toweling and a loose cover placed over this, the idea being to pretct can fro mthe effects of drafts, but not to seal it hermetically so as to permit some of the air to escape at the top when it was displaced at the bottom by the heavy vapor. At the end of two hours the can was opened, the package containing the lice-infested shirt was aired and examined. All the lice were found to be dead, and they did not revive when examined at various periods up to twenty-four hours afterwards. It was ascertained that exposure, under similar conditions, to the same strength of carbon tetrachloride for an hour and a half was not sufficient to kill all the lice, about 25 per cent surviving. It was also found that a lesser amount of carbon tetrachloride was not sufficient to kill the lice in two hours.

These experiments were repeated in various ways with lice on pieces of cloth contained in test tubes open at both ends, but fairly tightly sealed with cotton plugs. These tubes were tightly wrapped in all the various articles of clothing, and it was found that 25 c. c. of carbon tetrachloride, with exposure of two hours, was sufficient to kill all the lice.

The garments were hung up and aired for an hour, after which no odor of carbon tetrachloride could be detected on them.

Various emergency devices could undoubtedly be used to replace ,if necessary, the tin container which was bought on the open market at retail for $1. A large galvanized iron bucket was very successfully used, provided it was not filled quite to the top.

It is essential that the container should be air-tight, that it be only two-thirds full of clothing, and it should be about twice as high as it is broad, as the vapor appears to be easily disseminated from shallow or broad receptacles. A muslin or canvas bag coated with rubber would probably give similar results if it were air-tight. Vulcanized rubber is somewhat softened by the vapor, but afterwards assumes its natural state. It might be possible to utilize an ordinary rubber blanket, if it were properly folded, to prevent the escape of the heavy vapor.

Wrapping the clothing up in heavy paper was tried, but this was not successful, as the heavy gas apparently leaked rapidly through the pores of the paper.

The outfit of soldier's clothing mentioned above, when rolled up and stowed in the can, occupied 1,134 cubic inches of space. Taking 25 c. c. of carbon tetrachloride as furnishing sufficient vapor to kill all lice on this amount of clothing, the following table, showing the amount of the chemical required for different standard units of space, has been constructed:

Space Occupied by Clothing.	Amount of carbon tetrachloride required with 2 hours' exposure. c. c.
231 cubic inches (1 gallon)	* 2
100 cubic inches	4.5
1 cubic foot	30.5

* 1.82 c. c. exactly.

Carbon tetrachloride is difficult to obtain on the open market at the present time, as the Government has requisitioned all available supplies for war purposes. When a federal permit can be obtained for its use, it is quoted at from 1 4to 18 cents per pound in 1,400-pound drums. A pound contains about 290 c. c.

At 18 cents a pound the cost of treating the amount of clothing previously enumerated would be about 1.5 cents. In winter time the extra underwear, blankets, overcoat, sweater, etc., would make a total of somewhere between 4,000 and 5,000 cubic inches, and the expense of delousing the entire outfit about 5 cents per man. In small lots the chemical is now sold at 37 cents per pound.

The tests were made at temperatures ranging from 6 8to 72 degrees F. It is to be inferred that the results would not be as good at lower temperatures, and further work along this line is desirable. However, the temperatures prevailing at the time the tests were performed were approximately those of artificially warmed living habitations even in winter.

The experiments made to determine the power of carbon tetrachloride vapor to kill the ova of the body louse have not been completed. It was definitely determined, however, that the nits are not killed by treatment with 30.5 c. c. of carbon tetrachloride to the cubic foot of space, with two hours' exposure. One test, using 150 c. c. of the chemical to the cubic foot prevented the eggs from hatching after eight hours' exposure, but a few of them hatched after four hours' exposure. No opportunity has offered as yet for confirming this result.

In considering the applicability of carbon tetrachloride as a delousing agent, the possible danger to human life must be borne in mind. The substance is said to be slightly more poisonous to human beings than chloroform. Several deaths have been reported among hairdressers and their subjects, when this substance was used for cleaning the scalp. This was apparently due to inhaling the fumes in a concentrated form. The fact that carbon tetrachloride is the base of one of the widely advertised cleaning fluids for removing grease spots from the clothing, would seem to indicate that its use in the hands of the laity is not accompanied by any grave danger. Inhalations have been employed for relief of various sorts of pain, but it was found to be more depressing to the heart than chloroform. It has been injected subcutaneously in doses of from 10 to 20 minims.

If experience shows that it is safe to use this substance in the manner described for the destruction of body lice on woolen fabrics, it will certainly prove to be a most efficient and convenient means of killing lice on the clothing of troops or civilians in places where recourse cannot be had to more complicated methods, as all that is necessary in actual practice is to place the infested articles in the container, pour the required amount of carbon tetrachloride on the top layer, cover and allow the can to remain undisturbed for two hours, after which they are properly aired.

In reporting this investigation of carbon tetrachloride as a louse destroyer, it is not contemplated to propose it as a substitute for the heat or cyanid gas treatments where these are available, as they would certainly be much more economical where large bodies of men are to be deloused at one time and in one place.—U. S. P. H. Reports, Vol. 33, No. 43.

INFLUENZA.

M. J. Synnott (Montclair, N. J.) and Elbert Clark (Chicago) describe the epidemic of influenza at Camp Dix, Wrightstown, N. J., occurring between September 15 and October 6 (Journal A. M. A., November 30, 1918). The maximum severity was on September 26, on which day there were 800 new admissions and a total of 4,025 in the hospital; approximately 6,000 patients with influenza were treated, 800 of whom died. Four nurses and a dietitian died during the epidemic while on duty, and one medical officer was taken ill on leave and died of broncho-pneumonia. The methods used for administering the hospital affairs under these circumstances; for enlarging its capacity and avoiding overcrowding; for the use of masks, disinfection and isolation in cubicles are stated. Laboratory tests were used in all pneumonia cases, including the routine urine examination, urine precipitation tests for type of pneumococcus, blood counts and sputum tests, and also the rules followed by physicians as to care and examination of patients, their transfer, and conditions for discharge, and especially the methods directed to the detection of empyema. The usual clinical history was one of gradual onset with prodromes for four or five days prior to admission, such as headache, malaise, backache, myalgia, fever, and marked prostration, anorexia and aggravation of symptoms after drill or exercise. Occasionally the onset was sudden, sharp and severe, with cough and often rusty sputum, high temperature and increased respiration and pulse. A low temperature in a severe case was a bad sign. The blood count usually showed leukopenia, and the urine contained albumin and casts. The patient looked ill but often did not feel so. Sore throat and chest pains were not common, as they are in the beginning of pneumonia. One-third of the cases showed frank signs of pneumonia, though frequently no physical signs were apparent at the first examination. A day or two later broncho-pneumonia was discovered, the lobules later tending to become confluent. This condition sometimes gave the physical signs of a lobar pneumonia, and the roentgen ray was useful in the diagnosis. The prominent features of the disease was the extreme toxemia noted in the serious cases. There was a sharp line of demarkation between the serious and mild cases. In the former, many cases developed cyanosis early, and died after periods varying from a few hours to three days. It was often apparent before demonstrable physical signs appeared. It could not be accounted for unless it was connected with the emphysema detected at necropsy. The cyanosis very often came on suddenly in patients who had been apparently doing well, and was not due to cardiac dilatation. The disparity between temperature and pulse was striking in this influenza pneumonia, and the authors consider this a strong point in diagnosis. The epidemic was entirely different from previous pneumonia epidemics. The authors consider it promarily a profound, rapidly progressing sepcemia and toxemia in which pneumonia was an important but somewhat secondary factor. The other symptoms are very closely noted and given in detail. Empyema was less common than might have been expected, and their experience did not indicate the advisability of early operation. Many patients got well with aspiration alone, and if costectomy is later considered, it is well to wait until the acute stage is passed. Other complications were those ordinarily met with in virulent infectious disease. Treatment was usually symptomatic, and to prevent relapses they consider it very important to keep all patients in bed until the temperature has been absolutely normal for at least forty-eight hours. Serum treatment was used in all cases of Type I pneumonia. Prophylactic immunization with a polyvalent serum, furnished by the War Department, indicates success against the pneumonia, but they do not advise vaccination against influenza. The pathology presented very diverse pictures. The authors mention the water-logged appearance of the lungs as especially notable in the early fatal cases. As regards the bacteriology, the streptococci and pneumococci were the most frequently found. The influenza bacillus has been encountered in the majority of cases, when looked for, but was never the sole invading organism. It has been recovered from the lung substance, the bronchi, trachea and sputum, but not in the blood culture. The associated organisms were the various types of pneumococcus, *Micrococcus catarrhalis*, *Streptococcus hemolyticus* or *viridans*, etc. It would appear that whatever part is played by *B. influenza*, in this epidemic, it did not invade the blood and probably cannot be credited as the sole cause of mortality; and it is by no means certain that it is the original infecting organism. The disease may eventually be shown to be caused by some filetrable virus or ultramicroscopic organism. They summarize their views as follows: "We are of the opinion that the infection begins in the upper respiratory tract and is characterized by an intense exudative inflammation. A tracheitis and intense general bronchitis follow. The exudate in the severe case is so thin and voluminous that neither coughing nor the ciliated epithelia suffice to throw it off. The lungs soon become water-logged. This exudate carries with it into the lungs the organisms ordinarily found in the nose, nasopharynx and throat, namely, streptococcus, Type IV pneumococcus, *M. catarrhalis*, Pfeiffer's bacillus, etc. A confluent lobar pneumonia ensues, caused by one or more of these organisms. In other words, we consider this a type of aspiration pneumonia.

The special features of the epidemic in Chicago are noted by Bernard Fantus, Chicago (Journal A. M. A., November 23, 1918), who gives his experience in family practice, of which there is less literature than of that in hospitals. One of the startling features was its sudden flaring up and its equally sudden decline. There is every reason to believe, he says, that the infection was universally present in the population. Susceptibility was very general, though varying in degree. Of those who escaped the developed disease, there are few who could not recall having coryza, a raw feeling in the throat or aches and pains, one time or another during the epidemic. That blood relationship had something to do with susceptibility was shown by the fact that in some families every member was definitely affected, while in others there was not one definite case, though exposure had taken place. The very old and very young seemed, on the whole, less susceptible. In view of the universal prevalence of the infection, quarantine was necessarily useless. The wearing of face masks gave no more protection than the excessive consumption of whisky indulged in by some, or the camphor bags worn by children. Nurses who used face masks were notoriously victims, and this is explainable by the fact that the eyes, unless specially protected, are open avenues to the respiratory mucous membrane. The symptomatology was multiform. Some cases merely showed fever without aches and pains, and vice versa; most patients coughed, some vomited and cough and some vomited and did not cough. The nose was less liable to be affected than the bronchial tubes, and when involved there was a marked tendency to nose bleed. Prostration was generally out of proportion with the severity and length of the disease, the average duration of which was about three days. Relapses, however, were frequent, and seemed to b increased by premature leaving off bed-treatment. Bronchopneumonia was the most important and serious complication, but continued rest in bed seemed to be the best preventive. This can be easily understood when we think that in an attack of influenza, warmth seems to favor the development of an immunity, whereas chilling has the opposite effect. The especially critical period is when the patient's temperature is falling or a little below normal. The duration for rest in bed for mild cases might be given as two or three days, but in severe cases or handicapped patients it should be increased, and to avoid chilling, the use of the bed pan and urinal must be insisted on, and the patient's garments and bedding kept dry. In most cases good nursing is more important than good doctoring. The symptom most often noticed, but probably least deserving it, was the fever, which was usually readily reduced by proper treatment. A proper object of therapeutic attack was the aches and pains, and it was from their analgesic rather than their antipyretic action that the coal tar products are of value. Their chief disadvantage is the sweating they cause, and therefore, when the pains are very severe, the physician may give an opiate. The proper management of the cough is probably of fundamental importance. In a number of patients he has found an iodid with liberal fluid ingestion very valuable, and the serious case, where ammonium chlorid fails to relieve, the addition of sodium iodid with it gave satisfactory results. In all cases plenty of fluid should be administered. As regards the cough, Fantus believes the administration of opiates by themselves or in complex cough syrups is pernicious. He has, however, found that when sleep was impossible on account of cough in some exceptional cases small doses of codein, by the hour, of value. Insomnia should not be permitted. A tendency to vomiting was so common that liquid diet was found advisable. The prevention of bronchopneumonia, the chief cause of death in influenza, is possible in a considerable proportion of cases by the enforcement of sufficiently prolonged and thorough rest in bed, favoring of free expectoration, a copious ingestion of fluid, and perhaps the use of iodid and avoidance of opiates.

IMPORTANCE OF COMPLETE AND CORRECT REPORTS.

Statistical information—to be informative—must be accurate, complete and possible of comparison.

The uses of vital statistics are to obtain information as to matters relating to public health: particularly concerning itself regarding diseases from which human beings suffer or are exposed. Vital statistics also assists in the study of both good and evil conditions affecting health, as well as furnishing data for life insurance.

In order to have proper vital statistics, the law requires the reporting, by parties concerned, all marriages, births, deaths, and certain forms of disease.

Law-abiding citizens, appreciating that a law is a regulation for the comfort of the many, willingly and promptly comply with requirements.

Owing, perhaps, to these occurring at irregular periods, the duty is overlooked, but the lapse is a ivolation of the regulation equally as serious as if the omission were intentional.

Ministers, physicians, midwives, veterinarians and managers of institutions, upon whom the duty of making reports regarding these matters devolve, are known to be very busy persons, but the obligation is important. From time to time attention is called to these matters by specially prepared articles, hoping thereby to make an indelible impression which will prevent procrastination or omission of duty.

That all may appreciate their several obligations, the following pertinent facts regarding the uses and importance of these various reports will be not only interesting, but should serve to make compliance with the regulations general and the reports accurate and complete.

Marriages are reported for registering, in order that economic conditions may be determined and illegitimacy and its evils prevented.

Marriage reports to the Department of Health, while such are public records, yet are confidential and are available only to those permitted by law to have access to them and then only after proper identification, or authorization.

These records give valuable information relative to the social life of a community or country, establishment of families, relationship of families to growth of population, and make possible the comparing of information of a definite character—as, for instance, the experience of previous years or periods, or with different communities. An increase in the number of marriages furnishes reliable evidence regarding prosperity, and vice versa; finally, marriage records are of assistance in determining inheritance and dower rights.

Birth certificates, when recorded—and all should be so—have many very necessary uses—

for instance: Ascertaining date of birth—necessary in hundreds of ways; for military duty, pension papers, voting, jury duty, employment certificates, securing passports, establishing age for school attendance, to permit marriage without parents' consent, establishing parentage, proving legitimacy, aiding in property distribution, genealogical relationship, and matters concerning inheritance, etc.

Birth certificates aid in determining the growth of the population of a community or country. They also show the fecundity of a race and frequency of illegitimacy and are basic in determining the infant mortality rate.

Reporting the presence of certain diseases, particularly those which are communicable, is of great importance to the public health for the following reasons: To show the occurrence of cases, making it possible to take suitable precautions, protect the family, their associates and the community; to see that the sick secure proper treatment—ophthalmia of infants being a disease which readily causes blindness unless properly and promptly treated; to show the location of conditions conducive to illness or injury and making it possible to remedy such matters; in certain diseases to show distribution and prevalence as well as conditions under which such may sppread; showing the need of sanitary measures to check the spreading or acting as a check on the efficiency of such measures.

Registration of disease, when recorded over a period of time and suitably compiled, become records of past occurrences of disease, for which may be shown (a) relative prevalence, (b) varying conditions year by year, (c) effect of introduction of public health measures and sanitary works, (d) and furnish a history of disease unobtainable in the absence of registration.

Registration of deaths furnishes valuable information relative to the health of a locality as well as information concerning the virulence of disease.

Registering deaths aids the public by furnishing proof for the probate of wills, settling of estates, establishing claims for pensions and insurance, locating parentage, as well as ancestral relations, and, in addition, acts as an index of the efficiency of methods adopted for the advancement of both social and economic conditions.

The more protection people are offered, the more they advance in civilization—in fact, the prpoportion of care and attention given to the general health of the public directly affects the rosperity and happiness of the people, and incidentally reduces misery and economic loss.

If inventory an dstock-taking are essential in the business world, so, in the field of human endeavor, does the registration of marirages, births, diseases and deaths lie at the very foundation of community progress.

All citizens can aid materially by giving this their personal co-operation: the wife should see that the marriage is duly recorded; the parent that the child's birth is registered; the citizen that communicable disease is promptly reported, and public officials that all deaths are registered. Through constant vigilance the reporting of these essential factors of human pprogress only may be made perfect and complete.

DISINFECTION.

To the average person, the process of disinfection, however perfunctorily carried out, is a security or protection against the conveyance of catching (infectious) diseases; but this simple faith is founded on false confidence. The diffusion of certain odorous chemicals cannot completely destroy infectious material as frequently as such may be replaced by some new virulent material.

In the laboratory one can determine to a nicety the conditions necessary for the destruction of the organisms of disease by any of the methods used in disinfecting, but in practice, especially in the homes, even the first requisite, contact between the disinfectant and the germ, is just the one which is most difficult to secure, d the length of time necessary for this contact to act efficiently in the open air is next to the impossible.

The factors which operate in determining the efficiency of a disinfection process are many an a want of any one, or at best, any series, may render nugatory well-intentioned efforts in this direction. Many people and some public authorities literally pour money down drains by lavishly supplying all comers with "disinfectants" or freely using such under mistaken belief.

Squibb's Mineral Oil
known as
Liquid Petrolatum
Squibb
Heavy (Californian)

Specially refined under our control, and exclusively for us, only by the *Standard Oil Company of California* which has no connection with any other Standard Oil Co.

FOR the Insane, Imbeciles, Patients in Coma, Hysterical Patients and all other cases of Irresponsibility, of Unconsciousness and of Altered Personality, Liquid Petrolatum Squibb is an efficacious and safe regulator of the bowels.

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

RELIABILITY UNIFORMITY PURITY EFFICIENCY

THE CITY VIEW SANITARIUM

ESTABLISHED 1907

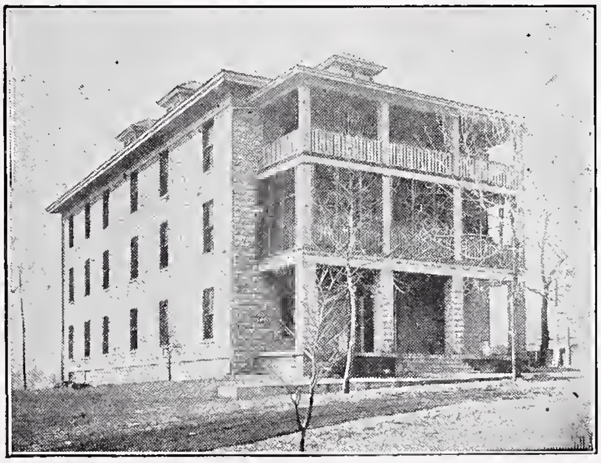
For the Treatment of Mental and Nervous Diseases and the Addictions.

A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accomodations to meet the requirements of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65.

JOHN W. STEVENS, M. D.
PHYSICIAN-IN-CHARGE
Telephone Main 2928
Rural Route No. 1, Nashville, Tenn.
REFERENCES—THE MEDICAL PROFESSION OF NASHVILLE

New 50 Room Department Completed January, 1915

Now Have Two New Buildings, One For Each Sex



The sink or toilet, when odorous, is filthy, and to remove this odor by disguising it with another odor, does not disinfect in the manner intended; on the contrary, the proper method to remove this odor consists in scouring, scraping and properly cleansing.

Equally futile is the sprinkling of halls, dark corners, floors, public conveyances, even the public streets, with weak solutions of colored or aromatic disinfectants, the odor of which, to the uninformed, gives a sense of security and thoughts of cleanliness. Those who are informed, or even partly informed, believe in sanitation, but let us be reasonable and fair to ourselves and not deliberately waste material.

If it is necessary to disinfect, let it be performed properly, but never let us falsely mislead ourselves into doing that which to the knowing is a waste of material and the act a foolish one.

A few weeks ago, in a densely packed, darkened motion picture show, the air was impossible, and a complaint was made to the management, who, instead of opening a window or door and starting a fant to effect a change of air, directed the porter to bring forth a spray gun, and up and down the aisles this colored son of "darkest Africa" paraded, spraying a very weak, watery solution of a mixture of aromatics which, instead of relieving, actually caused a number of patrons to depart. Surely men of sufficient ability to manage a public playhouse should be required to know at least how to care for people under such circumstances. This weak, watery solution certainly was not dangerous to the millions of microbes that lurk in the air under such conditions. What was needed was outside air to dilute the impure air within. In this instance it would have been much better to have spent the money on electricity, to operate fans, rather than have wasted it on squirt guns and cheap scents.

Labor many a time is wasted in perfunctory fumigation of living rooms after infectious diseases, and this department discontinued this practice in 1914, after carefully substituting concurrent disinfection and scrupulous cleaning on recovery.

Some authorities mislead themselves and waste material on the theory that if there is burned in a room some brimstone, that the room will be made uninhabitable until it has been cleansed and ventilated, and these two subsequent processes will do more in the way of disinfection than any spraying or fumigation.

As has been said, the ancient Jews were more thorough in their methods of preventing illness, and their methods, with suitable modifications, detailed in Leviticus (14 C., v. 34 *et seq.*), might be practiced with advantage today. Disinfection has too firm a hold on the public mind and is held in many instances as too secure a process. There is room for the exercise of discretion and common sense.

Cleanliness, fresh air, proper care of the sick, correction of ill-considered personal habits, are more to be commended than the potencies of various germicides and such are more in accord with the tenets of preventive medicine.

Given cleanliness, disinfection may be limited indeed to articles which have been in intimate contact with the source of infection and which it is not expedient to burn. To prevent the spread of the various catching diseases (infectious), cleanliness and all that the word implies is most necessary. How to make the unclean clean is not an unknown art or a lost science.

More labor, more soap and hot water, less smell, less sppray, less camouflage.—From Weekly Bulletin of New York Health Department.

VENEREAL DISEASE IN TENNESSEE.

Venereal disease constituted the greatest cause of disability in the army, according to the statement of the Surgeon-General. Of the million draftees whose examination papers first reached the Adjutant-General, just three per cent had a venereal disease. Tennessee's draftees among this first million showed 3.8 per cent of venereal infection. The disease was contracted by our young men at home before they went into the army. Must the same old conditions continue? Or shall the old conditions be destroyed?

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., JANUARY, 1919 NUMBER 9

A CASE ILLUSTRATING SOME ASPECTS OF FOCAL INFECTIONS.

By R. L. Motley, M. D.,
Baird-Dulaney Hospital, Dyersburg.

Mrs. G., age 36, white, married, was referred to me for diagnosis on November 12, 1916.

The presenting symptoms were as follows: Persistent and continued vomiting, without any relation to time of ingestion of food, which had started some two weeks previously. Scarcely a day passed that she did not vomit from one to several times a day. A subacute, constant pain high up in the left lumbar region, which remained in one place, and did not radiate in any direction. A condition of nervous irritability, with occasional spells of hysterical crying and pulling her hair. The passage of dark-colored urine, with relatively increased frequency.

Family History: There was nothing remarkable in the family history.

Past History: Aside from the usual diseases of childhood, there was nothing except one uneventful childbirth of any interest. She gave no history of any miscarriages. The vision in both eyes had been uniformly poor since childhod.

Present Illness: The present trouble started about two weeks before she consulted me, beginning with pain in the lumbar region, headaches, vomiting and "nervous" spells. She had some fever at times, which was irregular in character, but never going beyond 100. She had not missed a day vomiting at least once, and usually several times during the day. There was some anorexia and disturbance of sleep, and there had been a noticeable loss of weight up to the time that I saw her. The headaches had been irregular, and not confined to any part of the head. The urine had first become lessened in amount, very highly colored, and produced a burning sensation when passed. Later it became increased in amount, but remained very dark in color. There had been some swelling of her feet and ankles, but not to a great extent. She had been growing gradually weaker, and when I first saw her, had to be assisted in moving about.

Physical examination showed a rather large, obese woman, who showed evidences of having lost some weight. She had a "sick" look. At the time of my first examination, the pulse was 105—full, bounding and regular; respiration, 19; temperature, 100. Scalp and face negative. Eyes reacted promptly to light and accommodation. Vision bad, but no worse than it had always been. Eyegrounds showed no hemorrhages of retinitis. The examination of the mouth will be discussed a little further along. The lungs showed no signs of pathology upon the closest examination, repeated. The outline of the heart showed no enlargement, and the apex beat was faintly visible in the fifth interspace, within the nipple line. The sounds of the heart were clear and unimpaired, the aortic second was accentuated and had a clear, ringing sound. The abdomen was negative, with the exception of slight tenderness upon pressure under the border of the ribs. The back and shoulders were negative with the exception of tenderness upon deep pressure under the border of the left ribs. The ankles pitted slightly upon pressure.

Blood.—Hemoglobin, 75 per cent (Talquist). Reds, 4,400,000; leucocytes, 18,000, differential count showing nothing remarkable. Blood pressure, systolic 185, diastolic 90.

Stomach contents, after Ewald test meal: Total acidity, 50. Free HCl, 18; no lactic acid. A few leucocytes and sarcinae were present in the sediment. Benzidine test for blood, negative.

Urinalysis: Color, dark, brownish red; specific gravity, 1023. Pronounced albumen reaction with two tests. Sugar negative. Sediment: Numbers of red blod cells, mixed casts, no crystals, a few leucocytes and epithelial cells.

Radiology: Radiographs of the entire urinary tract failed to reveal any stones. On account of the thickness and weight of the patient, I was unable to outline the kidneys.

The chief thing noticeable upon physical examination, and the point which struck one most forcibly, was the marked oral sepsis. There was a severe degree of pyorrhea alveolaris and gingivitis. The gums had receded almost back to the alveolar processes and the teeth were loose in their sockets. By the most gentle pressure, pus could be milked out from around the roots of the teeth. It was very evident that the patient was swallowing quantities of pus all the time. Needless to say, one of her symptoms was a bad taste in the mounth.

A summary of the findings would be as follows:

1. A moderate degree of fever and slightly rapid pulse.
2. An arterial hypertension, as indicated by the sphygmomanometric findings and the quality of the aortic second sound.
3. An acute nephritis, as indicated by the urinary findings and the slight edema.
4. A leucocytosis with a moderate anemia.
5. A certain degree of gastritis.
6. A severe degree of oral infection.

Conclusions:

1. A gastritis produced directly by swallowing the pus, bacteria and toxins from the teeth and gums.
2. An acute nephritis, with the accompanying arterial hypertension, secondary to absorption of bacteria and toxins from the oral focus of infection, most probably a bacteremia as the chief factor.
3. An irritable condition of the nervous system, produced most probably by the action of the toxins on the nervous system.

Treatment and Course: After repeated examinations, with the above findings appearing constantly, and after satisfying myself that my conclusions mentioned above were correct, I advised removal of all the teeth, as there were none that would justify an effort to save. The teeth were removed at one sitting under nitrous oxide-oxygen anaesthesia, and the alveolar sockets swabbed with full strength iodine. Thorough intestinal elimination had been instituted when she first came under my observation, and it was kept up after removal of teeth. The diet was carefully regulated and I had the pleasure of seeing her vomiting disappear twenty-four hours after removal of teeth. In forty-eight hours the urine began to clear microscopically and continued the rapid clearing until she passed from my immediate observation and went home. She had one more "crying spell" before she left, and vomited three times the afternoon after removal of teeth. The day she went home the systolic pressure was 165, diastolic 82. Urinalysis the sixth day showed a reduction of albumen, fewer casts, leucocytes and blood cells. Leucocyte count on the sixth day showed 9,000 cells. She steadily improved from that time on. Examination one month later showed a trace of albumen and a few scattered casts in the urine, with no blood or leucocytes. Blood pressure, systolic 145, diastolic 75. She was feeling well and attending to light household duties.

Examination three weeks ago showed the slightest trace of albumen in the urine, otherwise normal. Blood pressure, systolic 135, diastolic 70. There has been no return of symptoms to that time.

The above case illustrates very well some phases of a subject that is beginning to interest the profession at large and has occupied the attention for some time of several authorities—namely, "focal infections." The field is large, full of possibilities, like syphilis, accounts for a large proportion of human ills, and, with the exception of a few workers, has not been thoroughly worked out. Billings and Rosenow were the pioneers in the subject, and to the present time have done the greater part of the conclusive work in this line. However, Brophy, Shuman and others have done some work along this line and have made valuable contributions to the literature. There are a number of men throughout the country who are from time to time adding observations to the rapidly collecting data regarding the subject.

That inflammatory and infectious processes in one part of the body can cause inflammations and infections in a remote part of the body has passed beyond the speculative stage. Some of the older writers frequently called attention to the acute endocarditis accompanying acute tonsillitis and peritonsillar abscess. In fact, that was mentioned in the list of complications as a common one and one to be looked out for. They made no effort to assign a cause for this. Others of the older writers made observations on the accompanying sore throat with acute rheumatic fever. At the present time most authorities are agreed that chronic and subacute infections act as a fountain head for the infection which invades all the tissues of the body. The only disagreement at present seems to be over the exact mechanism of the metastasis. Some writers hold that it is a true bacteremia, while others hold that it is through the lymphatics that the infection is carried from point to point. Of the fact that both symptoms enter as factors, there is no doubt in my mind. I have seen infections in extremely remote parts of the body from an apical abscess without even any enlargement of the neighboring glands. Also, blood cultures sometimes give positive results in these cases, showing beyond doubt that there is to a certain extent a bacteremia in some of the cases.

The localities which act as the original foci of infection are numerous and sometimes tax the diagnostic ability of the clinician to the utmost. Sometimes they are patent and easily eradicated. Of the more common foci, I will mention a few in the order of frequency with which they have been present in the cases in my observations.

1. **Tonsils.** There is no doubt but that the tonsils are the most common foci of infection. In examining nearly four hundred school children last fall, I found sixty per cent of them to have tonsils more or less abnormal. However, no tonsil, unless markedly pathologic and which needs to be removed for local symptoms, should be sacrificed on the spur of the moment for the relief of other symptoms, until a most thorough and painstaking examination of the other frequent localities of focal infections has been made. There has been many an unnecessary tonsillectomy for the relief of other symptoms, only to have the patient find no relief, and continue his sufferings until the real focus was discovered.

2. **Teeth.** An x-ray examination of the teeth should be made in all cases before any judgment is passed as to the exact cause of the trouble. There can be large abscesses at the apices of the teeth, with necrosis of the maxilla, which will not cause any local symptoms. I had one case that had been treated for "rheumatism" for months. His throat had been cleaned out, with no relief. His gall bladder showed no signs of pathology, nor did his appendix or sinuses. X-ray examination showed an abscess at the apex of an apparently normal tooth which did not even have a filling in it. Prompt drainage gave immediate and lasting relief. These abscesses can only be located with certainty by the use of the x-ray, and a set of all the teeth should be made, as it will do no good to drain one abscess, with another still remaining.

3. **The accessory sinuses** of the face and head, including suppurative middle ear, not infrequently act as foci of infection. They are not as common as the teeth and tonsils, but should always be examined thoroughly in every case.

4. **The large intestine.** From this source we get more symptoms of a purely toxic nature than from the other foci. We get the various indefinite and vague aches and pains and headaches from the absorption of the toxins of decomposition in a constipated intestine. We do not get the definite and acute inflammations that we get in some of the other foci.

5. **The gall bladder** is not an infrequent source of infection. However, I have not en-

countered it in my work as often as some others—in fact, it has been rare that I could with any assurance to myself lay the blame on the gall bladder.

It is sometimes very difficult to locate the exact source of infection, and may require repeated examinations. However, if a careful physical examination is made, aided by the x-ray, leucocyte count, transillumination, blood cultures, etc., the source of trouble should be found. It is due to carelessness and lack of interest that we frequently fail to relieve a lot of our chronic and subacute conditions, and force our patients to the osteopath and chiropractic.

Of course, when the focus is found it should be removed. Any treatment short of this is fighting the smoke and leaving the fire. If it is not practical to remove the focus by surgical procedures, an autogenous vaccine will frequently be of benefit.

The offending organism in the most of the cases is either one of the staphylococcus group or one of the streptococcus group. Rosenow reports that the streptococcus viridans has played a big part in his series of cases and experiments.

The tissues and organs that may be affected include most of the tissues and organs of the body. The joints, nerves and serous membranes are the most frequent sites of secondary trouble.

SUMMARY.

1. It is an established fact that an infection of any length of standing in one part of the body can cause metastatic infection in another part of the body remote from the original infection.

2. That the mechanism of metastasis depends upon either the production of a bacteremia or the conveyance of the infection by the lymphatic system, or in some cases, probably both.

3. That a more thorough search should be made in all cases of this class for [illegible] foci of infection. Repeated examinations should be made.

4. The foci should be eradicated as nearly as possible.

TREATMENT OF THE INSANE IN OUR STATE HOSPITALS.

By W. S. Farmer, M. D.,
Nashville.

The state hospital for the insane is the property of the taxpayers, and the physician who sends a patient to one of our state hospitals has a right to know what kind of treatment we have to offer for these unfortunate people.

Unfortunately for our state institutions, physicians do not take as much interest in their patients who have diseasesd minds as if they had diseased appendices. If your patient had a diseased appendix you would try to get him to the surgeon before the appendix had ruptured and peritonitis developed; but the patient with a diseased mind is often neglected and the case is not admitted to the state hospital except as a last resort, and by this time permanent damage has been done that cannot be repaired.

So many physicians, as well as laymen, have asked me the question: "Doctor, what do you do with all these crazy people?" Thinking it might be of some interest, I decided to give you a brief synopsis of what we are doing at the Central Hospital for our patients.

As you know, one who is insane should no longer be looked upon as a mad demon and disgraced, but as one whose mind is diseased and who will, oftentimes, respond to treatment the same as when diseased in other organs of the body. The word "asylum" should be dropped and the word "hospital" substituted, instead. What American psychiatry needs today is that the institutions for mental disorders shall be, in function as well as in name, hospitals. The same pains in the study of all the aspects of each case should, and can, with an adequate and trained staff, be taken in our hospitals as in the better class of general hospitals.

More pains, greater minuteness of study, indeed, are required in cases which come under our care than is the case in physical disorders, because we deal commonly with a physical disorder plus a mental disturbance, each often masking and rendering difficult of elucidation the essential details of the other. To accomplish this we need in all the state hospitals an influx of well-trained, enthusiastic, ambitious young physicians.

It may be affirmed, without fear of contradiction, that no principle is more firmly established than the fact that early treatment of the insane, based upon a correct analysis of the case, both physical and mental, is a key to success in the treatment of a diseased mind, whereas a delay in the application of the proper remedial agents at our command invites organic lesion and permanent disorder. Thorough study of newly developed cases and careful and accurate observation of the early symptoms is necessary. Immediately after the admission of all new cases to the Central Hospital a preliminary examination is made, to determine if homicidal and suicidal tendencies are present, or if dangerous tendencies exist. In the initial examination especial attention is given to the head, thorax, abdomen and bladder. The patient is then bathed and placed in bed for a few hours, and sometimes for days. At this stage catharsis is usually indicated, usually three grains of calomel. By keeping a patient in bed we can observe them much better than when walking around, but sometimes our patients will not stay in bed, and we will allow them the privilege of the ward, or detail one or two nurses to the patient, who see that they stay in bed. The nurse, or attendant, makes mental notes of the conduct of all new patients and reports to the physician in charge of the ward. The physician having charge of the ward, as soon as the condition of patient will permit, devotes a liberal amount of his time to both a mental and physical examination. The record is typewritten and includes a chemical and microscopic examination of urine and usual tests for tubercle bacilli and also of the blood. As soon as the physician has completed his examination and has prepared a carefully digested history of the case ,together with an analysis of the mental symptoms and physical signs, he presents this typewritten history, with his finding, to the hospital medical staff, and then brings the patient before the staff for a joint examination by its members, at which time the diagnosis is confirmed, if practically the entire staff is satisfied of its correctness. It is not an infrequent occurrence at the Central Hospital for our staff to disagree as to the diagnosis of a particular case, and when this does occur each physician is instructed to get his books and "read up." Then we will have the patient brought before the staff again in a few days for another examination. In the meantime, the patient is closely scrutinized by each physician, in passing through the wards, as to his conduct, and in the event our staff cannot agree, the case is marked "Undiagnosed." Usually, after the second examination we can agree as to the type of insanity. The proper diagnosis is very important, for some forms of insanity are much more favorable than others.

In our psychic examinations before the staff we usually ask the following questions:

1. What is your name?
2. How old are you?
3. What is your occupation?
4. Where do you live?
5. Where were you born?
6. When were you born?

Thus his orientation, as to time, is ascertained by asking:

1. What year is this?
2. What day is this?
3. Is this summer or winter?

Then his orientation as to place is elicited by asking:

1. What place is this you are now in?
2. What city or town is this?
3. Where is your home?
4. Can you name any of the people about you?

To determine whether the patient has any insight into his disorder, we ask him:

1. Is this your home?
2. Is this a hospital?
3. Why are you in a hospital?
4. Are you sick?
5. Is anything particular the matter with you?

6. Is there anything the matter with your mind?

7. Memory is tested with all sorts of questions about school days.

8. Who is the President?

10. Did you ever study geography? If so,

name some of the largest cities in the United States.

We ask many other questions, too numerous to mention—in fact, everything we think may throw light on the case, as well as testing the reflexes and pupils.

When a staff at a hospital does its duty, the mental and physical examination, including the personal and family history, will make several pages of typewritten matter. It takes about three hours to each patient to make a complete history of every admission, and while our institution is far from being an ideal one in this line, I think the work being done at present far surpasses former years, which our records, always open to inspection, will show.

You may say that all this is only routine procedure, and is carried out in all hospitals, but the importance of thoroughness in every step of the procedure is important. A correct understanding of the patient's mental mechanism, as well as his physical state, can only be obtained through the most thorough and searching examination and study of the case. The mental examination should not end by the presentation of the patient to the staff, but should continue as long as the patient remains in the hospital.

Another rule that the present superintendent has adopted in regard to our patients is that no patient leaves the hospital until a staff meeting is held on the patient, with a view of discharging him. This is imperative, as many patients, of a homicidal or suicidal tendency, are adepts at hiding their delusions, and if given their freedom might harm some one, or themselves, as well as to bring censure on the hospital. For instance: Mrs. M., of Macon County, who was suffering with a prolonged attack of melancholia, was visited by her husband, who asked to carry her home, on three different occasions, and was refused each time. The third time he became angry with me, and told me she was his lawful wife, and that he "would bring suit for her, and he guessed he would get her then." No amount of reasoning or argument would convince him that I would be doing her an injustice by discharging her, as she was not restored, and might take her own life. Instead of bringing suit, he made a bond to his county, agreeing to keep her at his own home for $10 per month, agreeing to not let her molest anyone, and she was turned over to him. He automatically converted himself into a special attendant for about six weeks. At the end of this time he called up the Central Hospital and asked if we would take her back. When she came, we found she had swallowed a false upper plate, with four teeth, which had lodged in her esophagus, just below the thyroid cartilage, and she had not swallowed for two days, though many ineffectual attempts had been made to remove the teeth. Fortunately for our patient, her false teeth were removed, and the husband has decided to let us keep her until we think it safe for her to leave the hospital.

Again, we have occasionally held a staff meeting on some patient and have decided that the patient was able to live on the outside, and the patient's relatives, and sometimes the county authorities, would all protest at the thought of the patient having freedom. Occasionally we have given a patient money and sent him home and charged the expenses to the county. The above cases are only cited to show you the magnitude of the responsibility of a superintendent of a hospital for the insane.

As to the medical treatment of the insane, there is no specific, as you all know, and the treatment is what we call "institutional," which includes regular habits, comfortable quarters, proper diet, kind, yet firm, treatment, frequent bathing and adhering to the rules of personal hygiene. We also abstain from talking to patients of their delusions. A great deal depends upon the nurses and physicians in charge, for if the physician can succeed in diverting the patient's mind in a new channel, as by employment of some kind, we have a fair prospect of restoring the patient.

Drugs are only to be used at special times, and to tide over special periods. Hydrotherapy we have found to be very beneficial, and one of the best agents at our command in the treatment of the acutely insane. The patient is placed in a bath (temperature, 90 to 95 degrees) for one or two hours. The procedure is especially adapted to acute mania, the excited periods of dementia praecox, and to other acute disturbances. The patient who has been noisy and struggling may soon become quiet. The warm water has a calmative and relaxing effect, the freedom of restraint offered by absence of clothing lessens the tendency to resistance, while elimination of the skin is greatly stimulated. The patient often goes to sleep in the bath, or as soon as returned to bed. The bowels frequently move and the kidneys act while in the bath, and it is carried off by the discharging pipe, and the advantage of this, in filthy cases, needs no comment. The mere fact that the patient becomes quiet and remains quiet, without the use of drugs—that he eats, sleeps and can be nursed without struggling—is, to say the least, a very great gain.

One of the most important therapeutic aids in the treatment of the insane is work or occupation of some kind, systematically done. Thus often a patient will be helped when all other remedies have failed. This year, in June, a mother came to the hospital to see her son. I invited her to have a seat and wait, as we would have to send for him, something like a half mile, as he was in the field at work. Her reply was: "What? You don't tell me you are working my boy? I sent him down here to be treated, and here you are working him on the farm!" I explained to her that this was a part of the treatment—that it was absolutely essential for us to put him on probation for awhile at the hospital before sending him home, and this was one of our ways to find out if he could live at home.

We have many patients who get along very nicely while working outside, but put them in the house for a number of days, and they deteriorate rapidly. When we have a patient that sits around on the wards with his head bowed down and refuses to talk or become interested in any kind of work, there is no chance for that patient to get well.

This year our patients have cultivated and put in cribs 500 barrels of corn, 130 loads of hay, have produced 366 barrels of sweet potatoes, cultivated 10 acres in a garden and have canned for winter use 4,600 gallons of beans and over 2,000 gallons of tomatoes, besides working on the roads and lawn. Many that helped to do the above have been rewarded by being restored and are at home with their loved ones.

One of the requirements that I demand of the patients and friends, before giving the patients their liberty, is that they shall drop me a postal or letter as often as once a month, letting me know how they are getting along at home. In this way I keep track of my patients and am in position to give them any advice that may be needed. The letters are of help to me in judging their mental state, as some patients may talk rationally, but will show their weak point when writing. I find that some paranoiacs show their mental condition very beautifully on paper, which would not be detected in the ordinary conversation.

The recognition of the fact that social conditions play a large part in the causation of disease hold the hospital responsible for the welfare of the patient after the discharge from the hospital. Hospital problems of our state institutions are, therefore, social as well as medical, and one of the needs of Tennessee is a well-trained social service worker for each hospital in the state. Close study of disease reveals the fact that underlying causes of a great many diseases are poor social conditions, such as poverty, ignorance, vice and overcrowding.

Of physical disorders, pneumonia, tonsillitis, heart diseases, chronic nephritis and diarrhoea, as well as many other diseases, are not infrequent. Accidents are rather more frequent in insane hospitals than in general hospitals, and with a population around eight hundred patients, the physician of an insane hospital, if he does his duty, finds plenty to do, with a variety of medical problems to deal with. We are striving to give, as far as our ability will admit, and the facilities at hand will provide, the benefit of modern methods of treatment.

In the way of amusements, we have a dance once a week. We also have a moving picture show once a week, singing every Sunday night, and church services every Sunday morning. One night each week is set apart for the phyisicians—Tuesday night—and all but one of us attend the Academy of Medicine. We occasionally have an address from some outsider, croquet and other games. Many of our patients take their home and daily papers, and are well informed concerning the war and other topics. Last year we gave permission for many of our patients to attend the State Fair—some unattended, and others with their attendant. You can readily see from this that an insane hospital, properly conducted, is not as bad a place as many have pictured it.

Unkind treatment is the exception, and not the rule, in our institution. You can persuade where you cannot drive. I have found out in dealing with the insane that you must not use any deception; always tell them the truth, at the same time letting each and every one of them know that, while you will be kind to them, that all patients must obey the rules of the institution.

We have a graduate nurse that works on both male and female sides. We have a man and wife as attendants on the receiving ward on the male side, and we contemplate, in the future, putting more female nurses on the male side. There is no reason why the majority of the wards could not have female nurses the same as in a general hospital.

I have recently become convinced that, of all the specialties in medicine, neurology and psychiatry is the most important one, around which all other branches and specialties of medicine revolve, like the lesser satellites revolve around the sun. This is beautifully illustrated in the present world-wide war. In the examination of our soldiers in the various cantonments, no matter what the physical fitness of any soldier may be, the neurologist and psychologist have the last say, and if they decide the soldier unfit from a mental standpoint, he is dropped from the roll and sent home.

The problems of superintendents of state institutions for the insane are so varied that none should be appointed to those positions except men of scientific ability, medical skill and judgment. Looking to the best interest of the taxpayers and hospital patients, we should hold our positions only by reason of fitness and merit, and for no other reason under heaven.

Pauperism, crime and alcoholic questions all come within the purview of the hospital for mental disorders, and we should prepare ourselves by study, not only of our patients, but of their antecedents and surroundings, their work and their recreations and habits, and be able to speak with authority.

Nothing will sharpen a physician's wits so much as contact with a critical audience, such as is found in a live and progressive medical society. In the language of Osler, who said: "Any physician should keep his mind plastic and impressionable; he must travel with men who are doing the work of the world—the men between twenty-five and forty." The people of our state should see to it that no one remains at the head of a hospital for the insane in our state that fails to take part in medical society work and scientific medicine. The hospital which is doing its full duty is itself a place of education for the training of physicians in psychiatry, as applied to medical science, and in medical science as applied to psychiatry, a place for training of nurses and a laboratory of psychology, as well as clinical medicine. The superintendent of any institution for the insane of our state who does not see opportunities for work beyond the restricted horizon of his hospital inclosure is short-sighted and misses his opportunities for the best work; and any Board of Control which does not encourage him in making the best use of such opportunities does not appreciate the full value possible to the community in the institution which it supervises, nor the opportunity for making the institution do its full duty. No better method could, in my opinion, be devised for awakening interest in our institutions for the insane than by showing the public that the medical officers of our institutions have not only an interest in the welfare of the patients on the wards, but also in that of the people of the community, in their health, in their work, in their environment, in their cares and perplexities and in the social problems. This is the day when efficiency in all departments is preached. The man, the machine, the institution, which is not working to its full efficiency is a losing proposition. Dr. Myer, of Johns Hopkins, recently said: "The usefulness in our institutions can be much increased by assuming some responsibility for the psychiatric standards of the district in which the hospital is located. The hospital should be a live center of psychiatric knowledge and influence. It can in this way do much to dispel ignorance and to establish better methods of dealing with mental disorders as they appear in the homes, in the schools, in the courts and in the social body generally."

The development in state hospital work in Tennessee has just begun. Its value is so apparent that it must go on and eventually it will bring our hospitals and the state systems of dealing with mental disorders, of which they are a part, fully into the field of mental hygiene.

Before closing, I want to remind you of the fact that there is perhaps no subject of greater importance than a study of the human mind and its influence upon society. The conscientious and intelligent can but look with dismay upon those unfortunate wrecks who, drifting against the rocks of mental aberration, lie stranded and helpless on the shores of progress.

When you think of us who work at the hospitals for the insane, you will please remember our motto:

Gentle as angel's ministry the guiding hand of love shall be,
Which seeks again those chords to bind which human woe hath rent apart,
To heal again the wounded mind and bind anew a broken heart.

THE SURGICAL TREATMENT OF HYPERTHYROIDISM.*

By E. H. Adkins, M. D.,
Chattanooga.

Hyperthyroidism, or exopthalmic goitre, is a disease about which very little is known regarding the etiology, yet it cannot be denied that the disease is a manifestation of excessive and disordered functional activity of the thyroid gland, and by removal of sufficient amount of the gland, its hyper-secreting action is overcome. It is now generally conceded that most forms of goitre require surgical treatment for permanent relief. Even now operative results are not perfect, yet the progress made in surgery of this condition is certainly one of the most important advancements made in the realm of surgery during the past twenty years.

The operative mortality constitutes the least of the surgeon's worries at the present time, as it has been reduced to close around 3 per cent. Better judgment as to whether or not to operate, when to operate, just what to do and how much to do, and the proper pre-operative and post-operative care, has been responsible for this, though the mastery of a difficult technic contributes in a great measure, and also is a major problem.

Exopthalmic goitre is a disease with a rather definite symptomatology, and its signs and symptoms are dependent upon the amount of poison that is dumped into the circulation. Some cases may run their course during the first few months to death. Plummer observes "that if the average course of the intoxication be represented by a curve, the greatest height is reached during the latter half of the first year, and then suddenly drops to the twelfth month." In many instances it reaches a normal base line during the first few months after onset; more often it fluctuates with periods of exacerbation for the next few years.

A patient suffering from exopthalmic goitre has a typical tremor, tachycardia and nervousness, usually marked loss of flesh, and some characteristic metabolic changes. Exopthalmos may or may not be present. Usually there is general enlargement of the gland, although sometimes the most severe symptoms are noted when the gland is barely palpable.

Admitting that the treatment of goitres in the toxic group is definitely surgical, the selection of a proper time in which to operate is of extreme importance. The avoidance of the period of increased intoxication is the thing that the surgeon must always keep in mind. Not infrequently patients are brought to a surgeon at the height of a period of intoxication or exacerbation, hoping to get relief from some surgical measure that will check its course, and sometimes he, on account of the solicitations of anxious friends and relatives, decides to operate. Under such circumstances operation will usually mean disaster. Much of the mortality of earlier results can be attributed to this error. C. H. Mayo has pointed out that an emergency operation is never called for in exopthalmic goitre. Patients in acute exacerbation should be put at absolute rest, both physical and mental, until the exacerbation has subsided, when surgical measures may be carried out.

---

* Read at the Athens meeting of the East Tennessee Medical Society.

Near the crest of the curve of intoxication the simplest surgical procedure—viz., hot water injections—may result in the death of the patient. The best results are obtained surgically when measures are instituted upon the down wave of improvement or until the exacerbations have ceased.

To be a little more explicit and give some of the ''dont's'' with reference to these patients may not be amiss: Don't do anything surgical with active delirium present nor when the patient has marked gastro-intestinal symptoms, such as vomiting or diarrhoea. Likewise, if there is much cardiac dilatation, say one inch, or if there is an irregularity in the number of pulse beats—for instance, if you count one time and find the pulse 150 or 160, and count again at another time, and find it reduced to 90 or 100, then again up, that shows a heart beginning to give away under the poison. Age also has to be considered. Older people stand operation in this condition of hyperthyroidism better than the very young.

Coming now to the operative procedure: What should it be? In the majority of cases it is possible to decide definitely at the time the patient is seen as to what should be done. In many, a partial thyroidectomy, meaning by that the removal of right lobe and isthmus and resection of left lobe, may be done primarily with safety. In many, a preliminary ligation of one superior pole is advisable, while in others a double ligation may be indicated at proper intervals. Sometimes repeated hot water injections (Parters method) may have to be given as a preliminary. The value of a preliminary ligation in the cases of doubtful severity and in the more severe cases cannot be overestimated. This method of handling cases probably has had more to do with the lowering of mortality than any other one factor. Again, in some of the very mild types of exopthalmic goitre ligations of the superior thyroid arteries will prove to be a curative measure. In those severe cases, where there is marked loss of strength and weight, where we do a double ligation of superior thyroid artery, send them home for about four months, and when they return for a partial thyroidectomy there will be a marked improvement and on an average a gain in weigth of twenty-two pounds, also a lessened toxemia. A ligation is easily accomplished under local anesthesia, usually one-half of one per cent novacain will suffice. Post-operatively, quiet, salines by bowel, ice on precordium, occasionally morphine, are the measures principally used. The further management of the case depends upon the reaction following the ligation. It may be that the progress of the patient is such that an extirpation of a large part of the thyroid may be carried out in a few days, or it may be that we have to do a ligation on opposite side, and proceed as indicated above.

Partial thyroidectomy in exopthalmic goitre requires careful technic, skilled assistants and perfect team work upon the part of everybody connected with the operating room force. Ether by the open drop method is the anesthetic to be preferred. There is no use to go into the details of the technic of the operation; suffice to say that good exposure is essential, with careful clamping and ligating of all vessels and secure suturing of the stump of the gland. Drainage probably is best established by a small rubber tube for twenty-four or thirty-six hours.

Post-operative management is about the same as indicated above for the cases following ligation, morphine being the sheet anchor.

Never give an exopthalmic goitre case a purgative. Keep the bowels open by the use of enemas.

The further care and treatment of these partially thyroidectomized cases is symptomatic. They should avoid all mental and physical strain for a long time. They should drink pure water and avoid excessive eating and get plenty of sleep and fresh air.

Lastly, 75 per cent of these cases report themselves cured and a very small per cent not cured. This is an extremely good per cent when one considers that the treatment in many cases is not only of the acute disease, but also of chronic condition, when permanent changes have become established.

It may be said in conclusion that the surgical treatment of exopthalmic goitre rests on a firm clinical and pathological basis, and most striking results are being constantly obtained by removing the greater portion of the thyroid gland for hyperthyroidism.

PNEUMONIA FOLLOWING INFLUENZA.*

By Henry A. Christian, M. D.
Hersey Professor of the Theory and Practice of Physic, Harvard University, and Physician-in-Chief to the Peter Bent Brigham Hospital, Boston, Mass.

In the recent influenza epidemic, pneumonia has been the serious feature. It is difficult to form any estimate of the percentage of influenza cases that showed pneumonia, for it is certain, from the reports of mortality, that the number of cases having pneumonia exceeded those so recognized by physicians. The proof of this statement lies in the large number of cases reported as having died of influenza in contrast to those having died of pneumonia following influenza. That the reporting of death from influenza instead of from pneumonia following influenza is almost always incorrect, I have shown in a recent paper.** The reasons for believing that in practically all fatal cases of epidemic influenza there is a pneumonic process in the lungs were stated there as follows

1. In 126 consecutive fatal cases of epidemic influenza observed by me and my assistants at the Peter Bent Brigham hospital, not a single patient failed to show physical signs justifying a clinical antemortem diagnosis of bronchopneumonia.

2. In 22 consecutive necropsies at the Peter Bent Brigham hospital in fatal cases of this group, no single case failed to show pathologic changes in the lung justifying the diagnosis on the part of the pathologist of bronchopneumonia.

3. In patients coming to necropsy pulmonary changes are as a rule more extensive than physical signs during life indicated.

4. Clinical study of nonfatal cases of epidemic influenza justify the belief that patients with fairly severe to severe cases have bronchopneumonia.

If many fatal cases pass with their pneumonia unrecognized, it is fair to assume that a large proportion of the nonfatal cases go unrecognized as to their pneumonia.

There is no question of the fact that a large proportion of patients fairly severely ill with influenza have bronchopneumonia. In our experience at the Peter Bent Brigham hospital in Boston, of 451 consecutive cases of influenza, 274, or 61 per cent, had physical signs justifying a diagnosis of bronchopneumonia, and 22 more showed physical signs suggestive of it, while 155, or 34 per cent, showed no pulmonary signs, or at most those of bronchitis. Obviously patients admitted to a hospital are apt to be sicker than the average for the general community. This is borne out by our finding signs of pneumonia in a very large percentage of our patients on admission. Still, our patients included a fair proportion of nurses, physicians and employees who were admitted in the very beginning of the disease, because it was necessary to admit them as patients for the purposes of isolation, though they may have been only mildly sick. This type of patient serves to increase the number of influenzas free from bronchopneumonia, but even here the number showing signs of some consolidation was considerable. Whatever the difference in the type of disease in hospital patients from those treated at home, if bronchopneumonia was present in six-tenths of all the hospital patients it must have been a frequent occurrence in the general run of severe influenza cases. It is certainly true that postmortem examination has revealed but very few cases dead of influenza without bronchopneumonia.

Why should it be that bronchopneumonia apparently has passed unrecognized in many cases of influenza? One reason undoubtedly has been that physicians were too over-driven during the epidemic to make careful physical examinations of the chest. Another reason lies in the lack of any constant or striking clinical picture that suggested bronchopneumonia. Finally, physical signs often were relatively little marked even when bronchopneumonia was quite extensive.

---

* Reproduced from Health News, Bulletin of New York State Department of Health.

**"Incorrectness of the Diagnosis of Death from Influenza: Presence of Bronchopneumonia in Practically all Persons Severely Ill with Influenza," Christian, Jour. A. M. A., 1918, LXXI, 1565.

In our patients we not infrequently found the physical signs of a patch of pneumonic consolidation in the absence of high fever, pain in the side, dyspnea, cyanosis, or blood tinged or abundant sputum. In many such patients no suspicion of a pneumonia would have been aroused by ordinary observation of the case without careful and repeated examination of the lungs. On the other hand, patients who in a general way seemed to have pneumonia would fail to show any physical signs of it. In some of these an x-ray would show the shadow of an area of consolidation; in others, no evidence of pneumonia would be so revealed. These facts strongly emphasize the importance of search for physical signs in the lungs if the cases with pneumonia are to be recognized.

With few exceptions the physical signs of consolidation appeared first in the back in the region of the angle of the scapula or in the interscapular region, now on one side, now on the other. The infrequency of early signs of consolidation in the front of the chest or in any part of the upper lobes of the lung was very striking. Later, as the process progressed, any or all lobes might become involved. The focal character of the physical signs and their mode of spread clearly emphasize the fact that in influenza we are dealing with a broncho-pneumonia, not a lobar pneumonia. This view was confirmed by the finding in all of our fatal autopsied cases, even when an entire lobe was involved, evidence that a confluent bronchopneumonia was present, and not a true lobar pneumonia. In my opinion lobar pneumoia was extremely infrequent in these cases of epidemic influenza.

The earliest pulmonary physical signs seem to have been fine snapping or crackling rales heard towards the end of inspiration at the extreme bases of the lungs in the back. These apparently did not indicate a beginning consolidation, for but rarely were the extreme bases the site of the early consolidation. These fine rales as a rule disappeared early in the disease, though they were often replaced by somewhat coarser, less crackling rales in those cases in which a more generalized bronchitis developed, and in these the rales were quite diffuse over most of the lower lobes.

As already stated, consolidation developed oftenest not at the bases, but in the region of the angle of the scapula or in the intercapsular region, and here our x-ray plates revealed early shadows of consolidation. The early physical signs of this consolidation varied in many cases. Often a peculiar crackling type of fairly fine rale heard as if very close to the ear—a consonating rale, appeared first without other demonstrable sign of change. In many other cases there was a striking suppression or even total absence of respiratory murmur or transmission of voice sounds in these areas. Here at times definite, though slight ,dullness could be percussed. In some cases the dullness alone was found. In others, varying degrees of bronchial breathing or bronchophony, with or without rales, were the first indications of consolidation. As varying combinations of these signs often occurred, there was great variety in the physical signs from case to case. Another feature was the frequent and often surprisingly rapid change in these physical signs. Usually, as time went on, clear bronchial breathing and bronchophony developed in these areas, and as a rule dullness could be made out.

As consolidation increased in area or as new areas appeared, as happened in many cases, physical signs of consolidation increased and often adjacent areas of lung tissue showed much variety of signs. Not infrequently an entire lobe became involved with extensive dullness, bronchial breathing and bronchophony; a picture, if seen late, in every way similar to that of typical lobar pneumonia, though if followed in its development, evidently quite a different sort of process. In some of these last type dullness without bronchial breathing, without bronchophony and with decreased tactile fremitus suggested fluid, but thoracentesis showed the absence of pleural fluid or empyema. Of course in others fluid would be found, for empyema was not an uncommon sequel. In a number of patients instead of dullness there was a distinct tympanitic sound elicited by percussion over a consolidated area of large size.

So much for the type of physical sign. The signs might appear early or late in the illness, but usually early. With fall in temperature they might disappear promptly; often, however, they persisted and in some cases remained for a long time, though eventually they disappeared and no pulmonary complication occurred.

As in these cases the process is a bronchopneumonia rather than a lobar pneumonia, it would be supposed that the fever curve would show a gradual return to normal or an irregularly swinging type of fever. However, in our cases, a maintained temperature and a rapid drop to normal was seen very frequently. Typical fall by crisis was nearly as common as a typical fall by lysis; in a number of other cases the temperature dropped steadily but required twelve to thirty-six hours to reach normal, or what might be called a prolonged or delayed crisis; in a moderate number of cases there was a very gradual fall to normal occupying five or six or more days—a prolonged lysis. In a number of patients, after one to several days of normal temperature there was a sharp rise occupying less than twenty-four hours with return to a continued normal. No explanation could be found for this type of sharp secondary rise in temperature.

What seems to me to be very important is that often an influenza patient would have a drop in temperature and feel greatly relieved of his discomfort—in fact, might feel well enough to get up and go out. Then his temperature would rise again and pneumonic signs would appear. This fact makes it very important to keep influenza patients in bed during their convalescence. A safe rule seems to be to keep every patient in bed for one week after his temperature is normal, if his temperature at any time has been above 101 degrees for more than one observation during the twenty-four hours. This may seem a little over-cautious; however, I believe the following of this rule would decrease the mortality and probably prevent a number of patients from developing pneumonia.

Again, to put all influenza cases promptly to bed and to keep them there as long as symptoms persist and well beyond their febrile period as indicated above is the most important step in treatment. In my experience drugs had no effect on the disease and need not be used, except such as are likely to make the patient more comfortable by relieving pain and discomfort. In this connection a word of warning needs to be said against morphia, particularly to quiet delirium. Opium slows the respiration, and to slow the respiration in this type of pneumonia accompanied by bronchitis with abundant liquid exudate always seemed to me to make conditions worse. Small doses and cautious use of morphia often gave good results, but great good judgment is certainly needed in its use. Expectorants were of no use, except sedative expectorants or inhalations in those with a persisting racking cough. Cardiac stimulants ,as I saw the cases, were not needed in the majority of cases, and in the toxic cyanotic pneumonic did absolutely no god. Bleeding in the cyanotic seemed to make conditions worse whenever tried.

That early to bed and continuance in bed is worth while is amply demonstrated by my cases of some sixty nurses and internes put to bed as soon as sick in any way, for not one died; while all about them the wards were filled with dying patients, many of whom, for want of physician and nurse before admission, had been sadly neglected and were not able to have continued bed rest. This, to my mind, is the all-important point in treatment. The high mortality, even when patients were sent promptly to hospitals, should make those pause and ponder who, whether in civil or military hospitals, were responsible for any delay in getting patients into bed with as little physical exertion as possible.

The seriousness of the epidemic of influenza apparently was enhanced greatly by the shortage of physicians and nurses. Prompt recognition of the disease by the physician, emphatic orders to go to bed and stay there, and simple nursing that provided attention enough to allow the patient to remain continuously in bed and have a simple nutritious diet at frequent intervals, were what were needed. Our inability to provide this must have increased greatly the incidence of pneumonia in the influenza epidemic and the consequent mortality. War conditions in part were responsible, but without the war were were not prepared effectually to deal with a pandemic of the nature of influenza. To the usual supply of physicians and nurses is needed the addition of a large reserve of men and women trained in the simple methods of the care of the sick and understanding how to protect themselves against the dangers from diseases transmitted by various forms of contact. Here is a field for work for public health officers, trained nurses, and the Red Cross. That the lesson of this epidemic will go home to those in charge of the activities of such people is greatly to be desired. Now is the time to prepare to be ready for the next epidemic emergency. Though of wars there may be an end in sight, of epidemic disease we know there will be repetitions. Judging the future by the past, pandemics of influenza are inevitable; I cannot see that from this recent one we have learned the wherewithal to prevent the next, but to handle it we can and should be better prepared.

VAUGHN ON INFLUENZA AND THE PNEUMONIAS.

Our readers will find in this Journal three editorials from the pen of Victor C. Vaughn, which we have taken from the Journal of Laboratory and Clinical Medicine for December. We reproduce these editorials for two reasons: First, because of the merit that is in them, and because we believe that our members will be benefited by reading them: second, because there is no other way of filling this number of the Journal other than by "lifting" material from other journals.

A number of the men who read or were to have read papers at the last meeting of the Association at Memphis have never sent their papers in for publication. We cannot run a medical journal without copy. So, we have taken copy from a good source, and present Dr. Vaughn's writings on most timely subjects, with the full assurance that they will be read with interest and profit.

FACT AND OPINION ON THE INFLUENZA EPIDEMIC.

At the recent meeting of the American Public Health Association the discussions relative to the etiology of the present epidemic resolved themselves into the belief that the bacillus of influenza is not the primary etiologic factor, and that the actual cause is as yet unknown. In the argumentation for and against the face mask as a means of preventing the spreading of the disease, sight was lost of the fact that definite evidence has been presented to show that the wearing of a mask prevents the diffusion of pathogenic organisms of which we have definite knowledge. A paper was presented which indicated to the satisfaction of most listeners that a significant factor in the spread of the epidemic in army camps was the inadequate washing of mess kits. (Jour. A. M. A., Dec. 21, 1918, p. 2074.)

INFLUENZA VACCINE.

So far but two definite reports of adequately controlled experiments on the use of influenza vaccine appear to have been published. That of Barnes concerned the use of the Leary vaccine, composed of strains of the influenza bacillus, and indicated that the vaccine was not of prophylactic value. The second report, by G. W. McCoy and co-workers, concerned a carefully controlled experiment on the use of a mixed vaccine similar to that brought out by Rosenow, and indicated that this vaccine was not efficacious as a prophylactic against the present epidemic. (Jour. A. M. A., Dec. 21, 1918, p. 2094.)

DIGESTIVE ABSURDITIES.

Scientific investigations have demonstrated beyond any doubt the irrationality of the combinations of digestive ferments which go to make up the various brands of aromatic digestive tablets, and all chemists and manufacturing pharmacists are familiar with these facts. The excuse for manufacturing them is that there is a call for them. It is a question whether the physician who ignorantly prescribes aromatic digestive tablets is not more morally culpable than the pharmaceutical house that supplies what such physicians demand. (Jour. A. M. A., Nov. 2, 1918, p. 1489.)

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

JANUARY, 1919

EDITORIALS

THE SOUTHERN PRACTITIONER.

The Southern Practitioner has been absorbed by the Medical Review of Reviews. This journal of Southern medicine, for so long edited and published by Dr. Deering J. Roberts, has made its impress and will be greatly missed by the large circle of readers which it had established for itself. Dr. Roberts, in disposing of the Practitioner, has carried out his wish to retire from the burdens of editorship because of advancing age. His has been a life of work and service. May his remaining years be spent in comfort and peace, with his friends around him!

WELCOME!

In the name of the Tennessee State Medical Association, the Journal extends a glad welcome to the several hundred Tennessee doctors who have been serving their country and the cause of humanity in the camps and hospitals in this land and across the seas, and who have returned, or soon will return, to their homes. These men have won the applause of their brothers in medicine and have won and have received the gratitude of the Nation. For themselves and for the profession of which they are a part, they have won honors which will count forever in the score marked up to the credit of this State and to the credit of their profession.

The next annual meeting of this Association will be held at Nashville in April. This meeting should be turned into one grand reception for our fellows who have been away engaged in the work of the enlightened lands of the earth for maintaining liberty. Do we hear a **second?**

ONLY NINE COUNTIES REPORTED.

Up to January 10, the day on which this is written, only nine county secretaries have reported for the new year. One hundred names have been entered on the 1919 roll. This is not at all encouraging, and not at all as it should be.

The war is over, the influenza epidemic has subsided nearly everywhere, and there is now no good reason why we should not all settle down and take up the threads where we left off when the two greatest disturbances of modern times came up to throw things out of balance.

Pay your dues to your county secretary, including the one dollar for medical defense, be sure to attend the next meeting of your society and all other meetings during this year, and in every way possible get into the work of medical organization, and let's make 1919 THE year.

TO BE INTRODUCED.

The following act to prohibit advertisements concerning certain diseases is to be introduced in the present Legislature:

Section 1. Be it enacted by the General Assembly of the State of Tennessee, That it shall be unlawful for any person or persons to publish or to cause to be published, or to distribute or cause to be distributed, any advertisement concerning venereal diseases, lost manhood, lost vitality, impotency, sexual weakness, seminal emissions, varicocele, self-abuse, or excessive sexual indulgence; or to permit to be or to remain on buildings, outhouses or premises controlled by such person or persons any placards or posters containing such advertisement.

Sec. 2. Be it further enacted, That it shall be unlawful for any person or persons to publish or cause to be published, or to distribute or deliver or to cause to be distributed or delivered in any manner whatsoever any advertisement calling attention to any medicine, article or preparation that may be used for the treatment of venereal diseases, lost manhood, lost vitality, impotency, sexual weakness, seminal emissions, varicocele, self-abuse, or excessive sexual indulgence; or any advertisement calling attention to any person or persons from whom, or any office or place at which information or advice concerning, or treatment for, the above-named conditions or diseases may be obtained.

Sec. 3. Be it further enacted, That nothing contained in this act shall be construed to apply to any didactic or scientific treatises which do not advertise nor call attention to any person or persons from whom, or any office or place at which information or advice concerning, or treatment for, diseases and conditions named in the first two sections of this act may be obtained; and that nothing in this act shall apply to any advertisement or notice issued by municipal or county boards of health or by the State Board of Health.

Sec. 4. Be it further enacted, That any violation of this act shall be deemed a misdemeanor, and that any person who may be convicted of such violation shall be punished by a fine of not less than one hundred nor more than five hundred dollars.

Sec. 5. Be it further enacted, That this act take effect from and after its passage, the public welfare requiring it.

NOTES AND COMMENT

Among the names of medical officers who have received honorable discharge from the Medical Corps, we note those of the following Tennesseans on a recent list: Lieuts. H. G. Edmonson, Gardner, B. E. DeLozier, Townsend, C. N. Crook, Moscow; F. B. Moore, Memphis; G. C. English, Mt. Pleasant; F. L. Young, Knoxville; W. H. Niles, Tellico Plains; L. C. Harris, Leoma, and C. F. Searight, Nashville.

The experiences of war times have brought many valuable lessons. Many of us have done things we have always thought we could not do, and have done these things very well. Now that the war is over, don't let down, but keep right on, doing your best.

It is really remarkable how important membership in a medical society comes to be in the eyes of the fellow who wants to go to some other state through reciprocity arrangements. And the fellow who has a chance to land a good assignment with some corporation which is smart enough to know that the best men are practically always to be found in medical societies also comes to appreciate the value of membership, when he finds out that he can't land the job he's after unless he does "belong."

Dr. A. F. Richards, Sparta, having received honorable discharge from the Medical Corps of the Army, after a visit to his home, has been to California to see his son, who is in the Navy and stationed at San Diego.

Maj. H. M. Tigert, M. C., of the Vanderbilt Hospital Unit, is another one of our Tennessee medical officers who has won promotion as a result of splendid service in France.

Dr. B. N. White, Murfreesboro, has returned to his home to resume the practice of medicine, having received honorable discharge from the Medical Corps of the Army.

Dr. R. B. Layman, Knoxville, has come back to civil life after several months of Army service, having received honorable discharge.

A card from Captain W. M. McCabe, Vanderbilt Hospital Unit, states that he has been at Nice, recovering from the effects of an attack of facial erysipelas.

We hope that all members of the Association who have been in the M. R. C., and who have returned to their homes, will promptly advise the Journal of their present addresses, in order that their names may be correctly entered on the mailing list.

"Never believe anything bad about anybody unless you positively know it is true; never tell even that unless you feel that it is absolutely necessary and that God is listening while you tell it." Try that out, neighbor, and hang to it for a good rule.

There were 4,841 deaths recorded from influenza and pneumonia in Tennessee during the months of September and October, 1918. November and December returns have not been fully compiled by the State Board of Health, because of delayed certificates.

The State Board of Health is soon to undertake the prosecution of an active campaign against venereal disease, and hopes to receive the earnest co-operation of the entire profession in this work.

A very earnest effort is being made to improve and perfect vital statistics registration in every county in Tennessee. Wont' you help? Send in a certificate of birth for every baby you deliver. Sign death certificates promptly and fully. Vital statistics are worth a great deal to the State and to the individual citizen.

Dr. C. Y. Clarke, Mt. Pleasant, is a member of the State Senate in the Legislature, now in session.

Dr. L. E. Burch has received his honorable discharge from the Medical Corps of the Army and has returned to Nashville to re-enter the practice of surgery in his home city. Dr. Burch served with distinction at Camp McClellan and in France and received merited promotion, retiring with the rank of lieutenant-colonel.

Major W. H. Witt, of the Vanderbilt Hospitfal Unit, has been ordered to the United States from Camp Hospital 28, Nevers, France, where he has been on duty for about one year.

The Journal is informed that Major Battle Malone, of the Memphis Hospital Unit, has been ordered home, and that he will soon return to Memphis.

Dr. J. Howard King, Nashville, has received honorable discharge from the Medical Corps of the Army, in which he held rank as captain, and has re-entered private practice.

Dr. Milton Tharp, Nashville, has returned to his home, after several months service in the Medical Corps of the Army.

Dr. A. L. Sharber, Nashville, having received honorable discharge from the Medical Corps of the Army, is back at work in private practice.

Dr. Sam Cowan, Nashville, has returned to his home, after a service of several months in the Army Medical Corps.

The Journal would like to have information concerning the return of all Tennessee physicians who have received discharges and who have resumed practice. From all that we have been able to learn, our fellows "have delivered the goods" wherever and whenever they have been called upon. We want to notice their return to civil life and to the associations of Tennessee medicine.

Dr. Frank Griffin, of Lake County; Dr. J. J. Rucker, of Rutherford County; and Dr. O. S. Hawk, of Sullivan County, are the physicians in the Tennessee Legislature, now in session.

Don't forget to see your county secretary and pay your 1919 dues.

Clean up the old office, throw away useless accumulations of all sorts, spread a bucket or two of paint on outside and inside, burnish up the old stove, put down a new rug or two, and look clean and prosperous. It'll pay. This is a new year—get in line!

It beats the dutch how some of our bugologists devised and advertised quick acting "flu" juices, in spite of the fact that the men in control of the greatest laboratories in the whole world, and with the best opportunities for making controlled experiments and investigations, couldnt' get any definite results with their vaccines.

"Had ten cases that had vaccine and all did fine—never had a ruffle. Vaccinated ten other folks and not one of 'em had the 'flu.' " Fine and dandy! But there were several million who were not vaccinated who have not yet had the "flu,' 'and just oodles of those who did get sick got well in a day or two without any vaccine.

Dr. Dan German, Franklin, has returned to his practice, having been honorably discharged from the Medical Corps of the U. S. Army.

Dr. B. T. Nolen, Franklin, having received his honorable discharge from the Medical Corps of the Army, is again at home and in private practice.

Lieut. J. O. Walker, Medical Corps, U. S. Navy, is on transport duty, having recently sailed from Hampton Roads.

Help make our state's vital statistics better by giving the contributory cause ,as well as the primary cause of death, on all certificates. If pneumonia is the immediate cause in a case of measles, be sure to state the whole facts. If a death is due to meningitis, state whether the meningitis is tubercular, epidemic cerebro-spinal, pneumococcic, or otherwise.

When cancer is the cause of death, state on the death certificate what organ was involved. If septicemia is the cause, state the contributing or exciting cause, and if the deceased happens to be a woman, be sure to say whether the septicemia was puerperal or not. Vital statistics can be made worth a great deal to you and the whole profession if the whole facts are given on death and birth certificates.

BOOK REVIEWS

PERSONAL HYGIENE AND HOME NURSING: A PRACTICAL TEXT FOR GIRLS AND WOMEN FOR HOME AND SCHOOL USE. By Louisa C. Lippitt, R. N., Assistant Professor of Correction Exercises, University of Wisconsin (in New World Science Series, edited by Prof. John W. Ritchie). Illustrated. Cloth; vii. and 256 pages. Price, $1.28. Published by World Book Company, Yonkers-on-Hudson, New York.

The purpose of Miss Lippitt's text-book is to explain the means by which girls and women may attain health and happiness in the present and lay the foundations for sane and vigorous lives in after years. In clearest terms it lays down practical instructions for the conduct of their daily lives. Not only are the rules set out, but the reasons which underlie them are made clear. Directions are given for preventing the spread of infection from cases of communicable disease, and instructions are furnished for the care of oneself and one's family in cases of accident or sickness. The author has given adequate treatment to the ideas that she considers most helpful to lay readers, but she has taken pains not to go too deeply into the scientific aspects of any subject. She has desired to keep the book rather brief, and for this reason has introduced only those topics on which women and girls seem particularly to need instruction.

GENITO-URINARY DISEASES AND SYPHILIS. By Henry H. Morton, M. D., Clinical Professor of Genito-urinary Diseases in Long Island Hospital College. Fourth edition; revised and enlarged. 807 pages, 330 illustrations and 36 colored plates. C. V. Mosby Co., St. Louis. Cloth; $7.00.

This is a book which has played an important part in placing the branch of medicine with which it is concerned upon the basis which it now occupies. The revision has been thorough, and the new methods of treatment, as well as the new methods of diagnosis, have been given very fine description. The work is comprehensive, taking in every part of the entire subject which it purposes to cover. The illustrations are well chosen and well executed. The subject of venereal disease has a new importance today, since the revelations of the draft and army camps, and genito-urinary surgery has come to be indeed a major branch of surgery, for which reasons, and because of its general merit, the book of Morton will be worth while in any library.

ROENTGEN DIAGNOSIS OF DISEASES OF THE HEAD. By Dr. Arthur Schuller, Head of the Clinic for Nervous Diseases in the Franz-Joseph Ambulatorium, Vienna. Translated by Fred F. Stocking, M. D., M. R. C., and approved for publication by the Surgeon-General, U. S. Army. C. V. Mosby Co., St. Louis. Cloth; $4.00.

The history of roentgenology of the skull, clinical methods of examination, and technique of roentgen pictures are all covered in a well-written introduction. The body of the work is made up of three chapters, the first including a study of the shape, size and thickness of the skull, and the diseases and anomalies of the skull. Injuries and deformities are treated in the second chapter, while chapter three is given over to the subject of roentgen diagnosis of intracranial diseases.

TIPTON COUNTY MEDICAL SOCIETY HOLDS MEETING.

The Tipton County Medical Society met in the office of Dr. G. B. Gillespie on Dec. 31.

In the absence of Dr. A. J. Roby, president, the meeting was called to order by the vice-president, Dr. Gillespie, at 11 o'clock. Those present at roll call were Drs. Gillespie, Hays, Roane, Hill, Sale, Newman, B. V. Dickson and Brown.

Dr. J. F. Myers was elected to membership in the society. The committees, not being present to report, were continued until next meeting.

Dr. Brown, having just returned from army service as lieutenant, received a hearty welcome.

At noon the society attended their annual banquet at the Lindo Hotel. After dinner business was resumed in the office of Dr. Gillespie.

The following officers were elected for the ensuing year: President, Dr. G. B. Gillespie; first vice-president, Dr. N. R. Newman; second vice-president, Dr. Holmes Roane; secretary and treasurer, Dr. J. F. Myers. The new officers at once assumed their duties.

An interesting, thorough and beneficial discussion was then entered into by all members present as to the prevailing disease, "influenza," after which the society adjourned.

G. B. GILLESPIE, President.
J. F. MYERS, Secretary.

McNAIRY COUNTY.

Selmer, Tenn., Jan. 10, 1919.

The McNairy County Medical Society met in the office of Dr. R. M. Kendrick on the third Thursday of December, 1918 (December 19), and re-elected Dr. H. C. Sanders president, Dr. J. R. Smtih vice-president, and Dr. W. T. Bell secretary, for the year 1919. All present resolved to make this year one of the most interesting, as well, as the most successful, of this society since its reorganization, several years ago.

Dr. J. M. King, of Chewalla, Tenn., was instantly killed on Saturday night, January 4, while trying to board a train at Cypress Tank, Tenn. He was a respected practitioner of many years' standing in this county.

DR. H. C. SANDERS, President.
DR. W. T. BELL, Secretary.

MISCELLANEOUS

NEW AND NONOFFICIAL REMEDIES.

During December the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with "New and Nonofficial Remedies:"

Non-proprietary articles: Benzyl benzoate; emetine bismuth iodide.

Abbott Laboratories: Emetine bismuth iodide (Abbott).

Hynson, Westcott and Dunning: Benzyl benzoate (H., W. and D.); solution of benzyl benzoate (Miscible; H., W. and D.).

Merck & Company: Diethylbarbituric acid (Merck); Diethylbarbituric acid (Merk tablets, 5 grains); sodium Diethylbarbituric acid (Merck); Sodium Diethylbarbituric Acid (Merck tablets, 5 grains).

H. K. Mulford Company: Bismuth Emetine Iodide (Mulford); Cachets Bismuth Emetine Iodide (Mulford, 8 grains).

E. R. Squibb & Sons: Chlorinated Eucalyptol (Squibb).

Takamine Laboratory: Arsaminol; Arsaminol 0.1 Gm. Tubes; Arsaminol 0.4 Gm. Tubes; Arsaminol 0.2 Gm. Tubes; Arsaminol 0.5 Gm. Tubes; Arsaminol 0.3 Gm. Tubes; Arsaminol 0.6 Gm. Tubes.

IMPORTANT ANNOUNCEMENT.

The Medical Review of Reviews announces that it has just purchased the third oldest medical journal in America—the Buffalo Medical Journal—founded seventy-four years ago by Dr. Austin Flint, and published regularly ever since.

The Medical Review of Reviews is to absorb the Buffalo Medical Journal, beginning with its January, 1919, issue. This is the third publication which the Review has purchased during the past few years.

The Medical Review of Reviews further announces that it will be greatly increased in size beginning with the January, 1919 issue, but that the subscription price is not to be increased.

LACE DRESSING FOR WOUNDS.

Every doctor in the United States should be interested in encouraging American manufacture of typically American medical products. Let us, by enthusiastic patronage of all-American manufacturers, so firmly establish the American supremacy in this field that there will never be the slightest danger of its passing back to Germany.

One typically American invention is the new wax-impregnated open-mesh lace dressing for wounds, burns, bruises, etc., which bids fair to revolutionize the present-day dressing methods.

Careful tests in large industrial hospitals show that by using this lace mesh, 50 to 75 per cent of the gauze, absorbent cotton, and roller bandages may be saved, as well as hours of the time of surgeons and nurses, not to mention the saving of agony to the patient experienced in the removal of the old sticking, secretion-stiffened pad of dressings, for this remarkable dressing does not stick.

Just by way of introduction, the Abbott Laboratories, Chicago, Ill., who make this parresined lace-mesh surgical dressing, offer a special outfit, containing a box of six envelopes of the lace-mesh, an ounce of Dakin's Dichloramine-T, and four ounces of chlorcosane—the solvent for Dichloramine-T—prepaid to any point in the United States, for only $2.50. They include, without charge, in the shipment, a trial bottle of chlorazene, Dakin's water-soluble, stable antiseptic, and one of Digipoten, a typically American digitalis preparation, which leaves no excuse for using the German. Send for this package today, doctor. It has the Abbott guarantee of purity and accuracy.

NOTICE

To the 257 Journals Listed in the American Medical Directory, Pages 91 and 92.

The annual report of the Surgeon-General, United States Army, for 1918 (including statistics for the calendar year 1917 and activities for the fiscal year ending June 30, 1918), has just been issued from the Government Printing Office. It contains a comparative study of the health of the army, 1820-1917; an account of the health of the mobilization camps and of the army by countries; a consideration (70 pages in extent) of the principal epidemics in the camps; and a discussion of fractures and operations. Nearly 200 pages are devoted to the special activities of the medical department, with the American expeditionary forces and in the divisions of sanitation, hospitals, supplies, laboratories and infections diseases, internal medicine, general surgery, orthopedics, head surgery, neurology and psychiatry, psychology, food and the dental and veterinary corps. In addition to the usual tables of illness, discharge for disability and death, there are given tables of battle wounds and operations; of complications of various diseases and of case mortality. The text is illustrated by seventy-three charts. Altogether the report is a study of health and morbidity in an army of over 1,500,000 men, for the most part yet in the period of training. It should be of interest to epidemiologists, vital statisticians and army medical men.

NEW AND NONOFFICIAL REMEDIES.

Emetine Bismuth Iodide.—A complex iodide of emetine and bismuth containing from 17 to 23 per cent of emetine and from 15 to 20 per cent of bismuth. It has the action of emetine, but when taken by mouth, it is less likely to cause vomiting than the soluble salts of emetine administered orally. It has been used with apparent good results in the treatment of chronic cases and carries of amebic dysentery, even where the hypodrmic administration of emetine has failed. The common used dose has been 0.2 gm. (3 grains) daily for four days, either in a single dose at the midday meal, or in divided doses.

Emetine Bismuth Iodide (Abbott).—A brand of emetine bismuth iodide complying with the N. N. R. standards. The Abbott Laboratories, Chicago.

Bismuth Emetine Iodide (Mulford).—A brand of emetine bismuth iodide complying with the N. N. R. standards. The H. K. Mulford Co., Philadelphia.

Cachets Bismuth Emetine Iodide (Mulford, 2 grains).—Each cachet contains 2 grains of bismuth emetine iodide (Mulford). The H. K. Mulford Co., Philadelphia.

Creosote Carbonate (S. and G.).—A brand of creosote carbonate, U. S. P. Schering & Glatz, Inc., New York.

Guaiacol Carbonate (S. & G.).—A brand of guaiacol carbonate, U. S. P. Schering & Glatz, Inc., New York (Jour. A. M. A., Dec. 14, 1918, p. 1997).

Benzyl Benzoate.—The benzyl alcohol ester of benzoic acid. It lowers the tone of unstriped muscle and has been suggested as a remedy against renal, biliary, uterine and intestinal colic and other spasms of smooth muscle, including angiospasm. Its cliniial use is in the experimental stage. The dose is from 0.3 to 0.5 cc. (5 to 7 minims). Benzyl benzoate is a liquid at room temperature, insoloble in water, bot miscible with alcohol, chloroform and ether.

Benzyl Benzoate (H., W. & D.).—A brand of benzyl benzoate complying with the tests ant standards of N. N. R. Hynson, Westcott & Dunning, Baltimore, Md.

Solution of Benzyl Benzoate, Miscible (H., W. & D.).—A solution of benzyl benzoate (H., W. & D.) in 78 gm. ethyl alcohol, emulsified with 2 gm. castile soap. It has the actions and uses of benzyl benzoate. Hynson, Westcott & Dunning, Baltimore, Md.

Diethylbarbituric Acid (Merck).—A brand of barbital complying with the N. N. R. standards. The actions, uses and dosage of barbital (first introduced as veronal) are described in "New and Nonofficial Remedies." Merck & Co., New York.

Diethylbarbituric Acid (Merck) Tablets, 5 grains).—Each tablet contains 5 grains of diethylbarbituric acid (Merck). Merck & Co., New York.

Sodium Diethylbarbituric Acid (Merck).—A brand of barbital sodium complying with the N. N. R. standards. The actions, uses and dosage of barbital sodium are described in "New and Nonofficial Remedies." Merck & Co., New York.

Sodium Diethylbarbituric Acid (Merck) Tablets, 5 grains.—Each tablet contains 5 grains of sodium diethylbarbituric acid (Merck). Merck & Co., New York (Jour. A. M. A., Dec. 28, 1918, p. 2153).

ACNE ROSACEA AND ITS TREATMENT, WITH SPECIAL REFERENCE TO YEAST TREATMENT.

A valuable addition to the treatment of acne rosacea is furnished in a remedy long employed against acne vulgaris—we refer to yeast, an agent well brought to the notice of the profession in an article by Hawk, Knowles, Rehfuss and Clarke (Jour. A. M. A., Vol. LXIX, No. 15, Octo. 13, 1917, pp. 1243-1247). The novel part of the labor of these collaborators consists in their use not of brewers' yeast, which has long been used in the treatment of furunculosis, acne, and allied conditions, but of the readily available ordinary yeast cake employed by housekeepers and by bakers (Fleischmann's Compressed Yeast). We quote from this article:

"Bakers' yeast was found to be a useful remedy in the treatment of furunculosis, acne vulgaris, acne rosacea, constipation and in certain other cutaneous and gastro-intestinal conditions. . . . Of eight cases of acne rosacea, all patients were improved or cured. or late adult life, older, as a class, than those affected with acne vulgaris.

Deformity due to advanced rhinophyma is best treated by means of surgical operation, by means of which redundant tissue is removed. Carbon dioxide snow may be used to remove small redundancies of tissue. In another class of cases, the oentgen-rays are of value in the treatment, or such agents as the Finsen light (or some equivalent for it), the quartz lamp, etc. Cases associated with dilatation of the capillaries and small vessels which fail to respond to other treatment may be treated by scarification or by electrolysis. Sulphur or resorcin in various preparations, or lotia alba in strength sufficient to keep the skin dry and slightly desquamating, may be applied locally. Vleminck's solution, at first weak, and then increased in strength, as employed in ordinary acne, may be used. Dreuw (Monatshefte fur praktische Dermatologie, Vol. LII, No. 7, April 1, 1911, pp. 349-365) recommends in this condition the use externally of a soap containing yeast. While such a soap is as a rule unavailable, yeast may readily be incorporated into pastes, etc., and used locally, not only in acne rosacea, but also in acne vulgaris, furunculosis and other purulent dermatoses.

If, however, we are to judge of the work of Hawk and his collaborators (1oc. cit), the external use of various medicaments would seem well-nigh superfluous. The causes of acne rosacea treated by them by yeast alone, with no external treatment mentioned other than boric acid, varied in duration from two to fifteen years. The lesions improved wonderfully or disappeared altogether, papules and redness went away in at most four weeks, often ten days to two weeks, about three yeast cakes being taken a day.

Of course, cases of acne rosacea should be treated symptomatically, all sources of irritation should be removed, and causative factors, such as uterine disorders, remedied. The alleged good effects of ichthyol internally, however, which is recommended by some dermatologists, are not acknowledged by all. . . . We consider that yeast is fully as successful as any other remedy in furunculosis, acne vulgaris and acne rosacea.'' When we consider that at least one of the authors named is a dermatologist of standing, there is reason for our applying to practice the data of the article with added confidence, especially when we consider that as yet we have in the treatment of acne rosacea no remedy that acts as a specific.

It is to be rememebered that acne rosacea consists in the superaddition of an acne to a rosacea or a more or less lasting flushing of specific areas of the face. At first transient, the flush becomes permanent and is associated with dilatation of the capillaries and small blood vessels of the area affected, giving rise when the nose is the region involved to the so-called ''grog-blossom.'' A further stage consists in the thickening of the connective tissue and the formation of irregularly shaped masses, which convert the nose, when it is the part involved, into the clinical picture of what is known as ''rhinophyma.''

We should remember that, although alcohol is regarded by the laity as the cause of the condition, such is not always the case. Alcoholic beverages, however, as well as the ingestion of tea and coffee, highly stimulating or well-seasoned food, constant exposure to heat or to cold, may play a part in the causation, especially in the causation of the initial flushing. The use of tobacco may have something to do with the bringing on of the condition. The use of tight clothing, such as collars and corsets, may also play a part. In women, the condition may be associated with uterine disorders. Very many of the cases are associated with gastro-intestinal disorders, especially constipation, conditions in which yeast is a peculiarly helpful agent.

It is well known that yeast is of great value in the treatment of ordinary acne. The acne lesions of acne rosacea are practically identical with those of acne vulgaris, except that the association with comedones is not as well marked, and the lesions do not form around comedones. (See Haven, Diseases of the Skin, 1915.) The condition may be associated with seborrhea cleosa. There are scarcely any subjective symptoms; the patients affected with acne rosacea are usually of middle

---

WHAT THEY LEARNED.

Although little or nothing is known regarding the cause of the influenza epidemic which recently spread such havoc broadcast through our nation, yet a few things were learned in connection with its treatment which should prove beneficial in handling a similar epidemic in the future.

The advisability of establishing temporary hospitals was soon very apparent, says Lieut.-Col. Philip Schuyler Doane, writing in the Modern Hospital of the influenza situation among shipyard workers. The mortality rate in the private home of the employee was much greater than that among those who were cared for in the temporary hospitals, and this fact proved a strong argument in favor of establishing these hospitals in various parts of the country even before the epidemic reached them.

It was also discovered that hospital accommodations must be adequate enough to give more than the ordinary allotted bedspace, that the pneumonic type of patient must be separated from the simpler variety, and that the beds must be partitioned off in such a way as to screen one patient from another. Free ventilation and abundant sunlight were found to be very necessary, and, as a result, partitions between beds were made by using compo board, carried to a height of at least six feet. Hygienic conditions were given careful attention, disinfection being carried out everywhere. The common drinking cup was absolutely abolished and all eating utensils carefully sterilized. In fact, it was discovered that prevention was half the battle, and, by keeping down the number of cases to be treated, those in hand could be given greater emphasis and more careful attention.

PROPHYLACTIC INOCULATION AGAINST INFLUENZA.

Experiment is the life of natural science. The primary condition of progress is that one must be eternally questioning, testing, trying out new ideas and methods—in the old-fashioned phrase, "interrogating nature." The successful investigator ceaselessly observes, theorizes and formulates experiments to verify his hypotheses. To experiment is of the essence of our faith.

As investigators know, however, it is not easy to plan and conduct an experiment in such a way that the results are unambiguous. Even in the purely physieal sciences the elimination of all factors except the one whose action we wsih to study is not always a simple matter. In the biologie sciences and especially in human medicine, conditions are usually so complex and the multiplicity of factors so great that the study of any particular factor is often fraught with great difficulty. Any one familiar with the history of the numerous attempts made in the past twenty years to use specific and nonspecific serums and vaccines knows of the countless wrecks of well meant endeavor and patient industry that lie high, dry and forgotten on the rocks of fact. No one of us believes for a moment that on this account we should slacken our effort or abate our enthusiasm. The success already achieved in the prophylaxis and treatment of several infectious diseases is enough to spur us on to fresh trials and new modes of experiment.

At the same time we have a right to ask that experiments in this field, where so much is at stake, where our hold on the confidence of the general public is involved, and where self deception is peculiarly liable to occur, be planned and carried out with as much precision and critical acumen as possible, so that proper conclusions may be drawn and the whole matter not left fogged with uncertainty. The trouble with so much of the "evidence" on the use of vaccines for the prevention of influenza—as stated in the recent report of the Committee of the American Public Health Association—is not that it is "contradictory and irreconcilable," but that it is not evidence at all; the pertinent facts are not collected and evaluated in such a way as to constitute solid grounds for either a favorable or unfavorable opinion. That is the real reason why confusion and uncertainty today surround much of the reported work on the prophylactic inoculation against influenza; the data presented are simply too inadequate to permit a competent judgment.

To what extent these considerations apply to an important article* presented in the Journal this week must be decided by each reader for himself. It may be questioned, perhaps, whether the greater receptivity for positive rather than negative results shown in the phrase, "because, after all, the results from prophylactic inoculation must be sufficiently favorable to be apparent under the conditions included in this report," is justified in an inquiry demanding such a rigorously critical attitude as the one in hand. Positive results are certainly more gratifying to the investigator than negative; all the more reason, therefore, why he should hold himself a little stiffly and be ever on his guard against an uncritical acceptance of a desired fact.

To be more specific, one could wish that definite statements might be made in place of vague and general statements, that the readers might be taken more fully into the confidence of the writer with respect to seeing for themselves those data on which he bases his conclusions. When we read: "This difference has been noted in communities in which the incidence and mortality rate were comparatively low,'' we want to ask: What were the communities and what was the population, what the incidence and what the mortality rate; where and to how many was the vaccine given, and what were actually the results?

---

* Rosenow, E. C.: Prophylactic Inoculation Against Respiratory Infections, this issue, p. 31.

It is not quite clear from Rosenow's article just what his position really is with respect to the effect of his vaccine in warding off initial attacks of influenza. Although, at the beginning of the paper, he seems to regard the vaccine as a means of increasing individual resistance to the secondary infections that follow in the wake of the primary influenza, later on, as in referring to the State Hospital for the Insane at Rochester, he attributes to it the virtue of preventing the primary infection.

There are other points of detail about which the curious reader will want further information. He will want to know dates, places, ages and population inoculated and uninoculated; he will want to know something about the clinical basis of diagnosis, the proportion of pneumonias, the conditions of exposure, and especially the measures taken to prevent influenza infection and to prevent the development of pneumonia in each group chosen. To specify only one case—the experience at a Rochester hospital—where fourteen nurses (out of how many?) developed influenza within two days (how many earlier?) prior to the first inoculation (at what period in the epidemic?), and only one case (out of how many possibilities?) developed subsequently during a period of six weeks—might be duplicated, so far as the facts given are concerned, in the experience of other observers using no vaccines whatever. In other words, unless all the cards are on the table, unless we know so far as possible all the factors that may conceivably influence the results, we cannot have a satisfactory basis for determining whether or not the results of prophylactic inoculation against influenza justify the interpretation they have received in some quarters.—Journal A. M. A., January 4, 1919.

RESOLUTIONS ADOPTED BY THIRD RESUSCITATION COMMISSION.

In the discussion following the presentation of methods and evidence to the Commission, the following important facts were emphasized:

1. That in most accident cases no resuscitation apparatus is at hand for immediate use.

2. That reliance upon the use of special apparatus diminishes greatly the tendency to train persons in the manual methods and discourages the prompt and persevering use of such methods.

3. That police officers or physicians often interfere with the proper execution of manual methods, in that they direct that the patient be removed in an ambulance to some hospital, thus interrupting the continuance of artificial respiration.

4. That in many hospitals the members of the staff are not all acquainted with the methods of artificial respiration.

5. That in medical schools instruction is not properly provided for students in the manual methods of artificial respiration.

In view of these facts, the following resolutions were adopted by the Commission:

1. The prone-pressure, or Shafer, method of resuscitation is preferable to any of the other manual methods.

2. Medical schools, hospital, fire and police departments, the Army and Navy, first aid associations, and industrial establishments in general, should be urged to give instruction in the use of the prone-pressure method of resuscitation.

3. Indviduals who, from accident or any other cause, are in need of artificial respiration, should be given manual treatment by the prone-pressure method immediately on the spot where they are found. It is all important that this aid be rendered at once. The delay incident to removal to a hospital or elsewhere may be fatal, and is justifiable only where there is no one at hand competent to give artificial respiration. If complications exist or arise which require hospital treatment, respiration should be maintained in transit, and after arrival at the hospital, until spontaneous respirations begin.

4. Persons receiving artificial respiration should, as much as possible, be kept warm and the artificial respiration should be maintained until spontaneous breathing has been permanently restored, or as long as signs of life are present. Even in cases where there is no sign of returning animation, artificial respiration should be kept up for an hour or more.

5. A brief return of spontaneous respiration is not a certain indication for terminating the treatment. Not infrequently the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched, and if normal breathing stops, the artificial respiration should be resumed at once.

6. Artificial respiration is required only when natural respiration has ceased. In cases of simple unconsciousness from any cause in which natural respiration continues, artificial respiration should not be employed without medical advice.

7. The Commission recommends that in cases of gas asphyxiation, artificial respiration, whether given by a manual method or by special apparatus, should be combined when possible with the inhalation of oxygen from properly constructed apparatus.

8. With regard to the employment of mechanical devices for artificial respiration, the Commission feels that it ought not at present to take a definite stand either for or against any particular form of apparatus. However, the Commission recommends that the use and installation of apparatus should be confined, for the present, to properly equipped institutions under medical direction. The Commission recognizes the great need of simple devices capable of performing artificial respiration reliably and efficiently. It therefore recommends a careful study of the problem, directed toward **the development of a reliable method appropriate for general adoption** (see appendix). Such studies can best be carried on in properly equipped hospitals and laboratories which offer opportunities and facilities for critical observation and experimentation.

In view of the importance which the knowledge of proper methods of resuscitation possesses for public health and safety, and considering the fact that many practitioners, members of hospital staffs and graduates of medicine are not thoroughly familiar with the methods of resuscitation, especially that of the prone-pressure method, the Commission recommends:

(a) That medical journals (and other scientific and practical journals which are interested in the problem of resuscitation) be asked to publish the resolutions adopted by the Commission.

(b) That a copy of these resolutions be sent to the medical colleges, with a request that proper instruction in this subject shall be arranged for in the college schedules.

(c) That these resolutions be sent to as many hospitals as possible, with the recommendations that members of the house staff shall familiarize themselves with the methods of resuscitation.

(d) In order that the resolutions of the Commission may be brought to the attention of interested circles (fire and police departments, industrial plants ,etc.), it was agreed that they be communicated to the Associated Press (by the National Electric Light Association).

It was voted that the Third Resuscitation Commission should be properly organized and continue its existence, ready to respond when requirements arise. The following officers were elected:

President, Dr. S. J. Meltzer; vice-president, Dr. Yandell Henderson; secretary, Dr. Reid Hunt; treasurer, Mr. W. C. L. Eglin.

It was voted to appoint a committee for the collection of verifiable data relating to resuscitation. The president appointed to the committee Dr. D. Edsall, chairman; Dr. Reid Hunt, secretary; Prof. Elihu Thomson, and the president, ex officio.

APPENDIX.

The Commission consists of fifteen members. Fourteen approve the foregoing report without qualifications. The fifteenth member wishes to qualify his vote by the following statement:

Dr. Yandell Henderson qualifies his support of the resolutions as follows:

"While I concur in a considerable part of the report of the Resuscitation Commission I dissent from the statement in resolution 8, recognizing "the great need of simple devices capable of performing artificial respiration reliably and efficiently.'

"Devices which are excellent from the mechanical standpoint are now available and widely sold; but the evidence regarding them indicates clearly, I believe, that even if these devices were on the spot where several gassings or electrocutions occurred, and if all the victims were treated with them except one, who was given manual (prone pressure) treatment, this one would have much the best chance of recovery. In actual practice the apparatus is seldom right on the spot adjusted and ready. Critical time is lost, and thus in the above suppositious cases, as they actually occur, the only victim with any considerable chance of resuscitation (aside from those who recover spontaneously and are credited to the apparatus) is the one treated manually.

"Even more important is the fact, demonstrated now by universal experience, that when apparatus is known to be obtainable, it is sent for and the manual method neglected. Thus today the apparatus in public use is, on the whole, contributing very materially to decrease the saving of life."

THE INFLUENZA IN GERMANY.

It seems from reports that have reached the office of the Surgeon-General that epidemic influenza became sufficiently important in Germany last July to lead to special conferences of prominent medical men at Berlin and at Munich. We have no detailed information concerning the extent of the prevalence or the degree of virulence which the epidemic manifested in Germany. At the present time it seems that the virulent form of the disease first appeared in Germany. It is true that a mild epidemic of influenza passed through Spain in the early Spring of 1918, then visited France and probably extended into Germany; but in both Spain and France the Spring epidemic was mild, resembling that form of the disease which we have had in this country more or less for some years, and which acquired a rather wide diffusion in the year 1916. The German pathologists who attended the conferences at Berlin and Munich evidently had had plenty of material under observation and upon which they reported and consulted. It was concluded at these conferences that the pathology of the epidemic then prevalent in Germany was the same as that of the epidemic of 1889-90. This conclusion was reached after the comparison of preserved specimens from the epidemic of 1889-90 with tissues fresh taken from the body. Obendorfer stated that he had made a large number of autopsies at Munich and reported the lesions of the respiratory organs as uniform and typical to such an extent that he would undertake to dictate a protocol.

In the initial stage of the disease the most characteristic findings are bean-sized hemorrhages projecting into the lung tissue. This is followed by a firmer infiltration of the parenchyma, the nodules projecting against and raising the pleura. There are many intermediate formations between the small nodules and the large hemorrhagic infiltrations. There are all possible gradations from simple blood extravasations into the lung tissue, still containing air, to firm infarcts—the last mentioned consist of hemorrhages and have a bluish black tinge. The larger infiltrations are wedge-shaped, with the base of the wedge projecting against the pleura, thus indicating their relationship to the vascular system. The extravasation of red blood cells seems to be due to abnormal permeability of the walls of the blood vessels.

The second stage is characterized by an exudative pneumonic process combined with hemorrhages. The picture varies considerably. There may be a true croupous hepatization of lobular, or even lobar, extent, both red and grey, though the tinge is usually brownish and not distinct. The surface is not dry, but is covered by a slimy, dirty coating, resembling a picture of Friendlander's pneumonia. The pneumonic foci are sometimes flattened out at the ends into yellowish white wedge-shaped structures corresponding to anemic infarcts both in form and in color. These often become the seat of gangrene or suppuration, the pleura being coinvolved in the process. In the majority of cases there is a catarrhal and desquamative infiltration rather than a fibrous exudation. However, in the majority of instances, especially in the severe ones, there is marked suppuration.

The bronchi are filled with pus even in the first stage, the smaller branches contain thin fluid, though at times firm exudates plug the lumen of the smaller bronchi. The effect of this is distended bronchi. In some instances there are many minute abscesses surrounded by hemorrhages. These abscesses often become confluent, ending up in the formation of large pus cavities.

The first lesions in the pleura consist of pinhead hemorrhages, and empyema may result. As a rule, only one side is affected. Pericarditis is a natural consequence of the inflammation of the pleura. There are no gross changes in the heart with the exception of some thickening of the arteries.

The larynx and the upper third of the trachea usually show no involvement, but the lower third of the trachea is the seat of an intense mucopurulent exudation, which in many cases assumes a fibrinous character, with the consequent formation of extensive pseudomembranes in the lower trachea and down into the bronchi. Sometimes edema of the epiglottis is observed.

A rather characteristic feature is presented by the hyperplastic condition of the lymphatic apparatus of the tongue and the tracheal ring. The thymus is well preserved, the cervical and axillary, but not the inguinal glands, are enlarged. On the whole, the impression of the existence of a status thymolymphaticus is conveyed. As young individuals are mainly affected, these facts may stand in the relation of cause and effect. The spleen is enlarged and sometimes a septic spleen tumor may be found.

The liver is but seldom involved, and the kidneys show a general hyperemic condition. In the brain and the meninges there is a marked vasodilatation, but no meningitis is found. Pinpoint hemorrhages are sometimes seen near the base of the brain.

The histologic examination reveals the following unusual findings: In the trachea there is an intense exudation of fibrin in the deep layers of the mucosa, and a progressive inflammation of the deeper portions of the tracheal walls. In the lymphatic glands there is an enormous vasodilatation with hemorrhages, as well as proliferation of the endothelium, especially in the axillary glands.

The foci of inflammation in the lungs show a leucocytic infiltration round the alveoli, bronchi, and the walls of the small arteries. It does not involve the whole vessels, which are dotted with isolated spots of infiltration. There are also hemorrhages into the heart valves, with a consequent displacement of the fibers and damage to the endothelium with no definite endocarditis, but with lesions which facilitate the development of a secondary mycotic endocarditis There are, therefore, signs of lesions of the walls of the vessels, which are found to be particularly marked in some cases in the pulmonary artery. An advanced mycotic arteritis was detected in these cases. Masses of streptococci were found.

Obendorfer concludes his report with the following statement:

"The essence of the whole pathologic picture consists, therefore, in the abundance of hemorrhages seen in the mucous and serous membranes, in the respiratory tract, and in the lungs, which indicate a damaged condition of the capillary vascular system. The abscesses, save for those originating in the bronchi, are also of a hematogenic nature. The whole process seems to be primarily a bacteriemia localized in particular in the pulmonary blood vessels. Hemorrhages in the lungs pave the way for a secondary infection, the results of which dominate the whole field in the later stages. In any case the wedge-like shape of the pulmonary foci indicate a vascular origin of the lesions. From a purely anatomical point of view, the condition bears many points of resemblance with pneumonic plague, though there is no indication as to an entry of the virus through definite lymphatic channels. The primary bacteriemic condition was not found to be due to B. influenza (Pfeiffer), and thus the invading virus remains undiscovered."

It is worthy of note that in Germany and in this country most of the deaths due to pneumonia following influenza have been among the most robust and most vigorous men. This is quite characteristic of all pestilences. The severe, rapid infectious diseases kill most quickly and most surely the strongest and most robust. This is the case not only in pandemic influenza, but in the plague, typhoid fever, typhus fever, smallpox, and, in short, all the acute, highly infectious diseases. This is explained by the resistance put up by the body cells against the invading microorganisms. A strong and vigorous man attacked by one of these diseases either makes a speedy and rather abrupt recovery, or is likely to die. Nature overdoes the resistance, kills the invading organisms too rapidly, and sets free such an amount of poison that death results.

In many of the reports coming into the Surgeon-General's office, it is noted that the mortality is high among the most vigorous men. Moreover, this epidemic differs materially from the ordinary influenza in the age incidences of those who die. In the ordinary influenza, children and the aged furnish the greatest number of deaths; while in the pestilential form of the disease most of the deaths are among those from twenty to forty years of age. It has been assumed by some that the infectious diseases, in the long run, benefit the race by killing off the weaklings. Even Herbert Spencer, the great philosopher of modern science, taught this doctrine; but the epidemologist knows better. Infection, like war, kills the young, vigorous, robust adults.—V. C. V., in The Journal of Laboratory and Clinical Medicine.

NOTES ON INFLUENZA.

1. Pandemic influenza is an acute infectious disease, of unknown causation, characterized by a marked leucopenia which removes the normal barriers against infection and exposes the body to invasion by whatever pathogenic organisms may gain access to it.

2. It may cause death without the aid of other viruses, but in the majority of instances its deleterious effects are intensified by the presence and activity of other pathogenic organisms.

3. In its spread it is not dependent upon the presence or aid of other viruses. It attacks the strong and vigorous as readily as it does the infirm. The mortality caused by it is higher among the strong and vigorous than among the weak and sickly.

4. The mortality accompanying or following it is largely determined by the presence and virulence of other infectious organisms.

5. The period of incubation, so far as it can be determined, is two days or less, depending, doubtlessly, upon the virulence and the amount of the virus introduced into the body and the readiness with which the natural resistance of the body is broken down and the degree of defenselessness, indicated by the leucopnia, established.

6. The pathogenic organisms which most frequently take advantage of the defenseless state of the body induced by the influenza virus are those which are capable of growth and multiplication in the pulmonary tissue, such as the different types of pneumococcus, streptococcus, Friedlander's organisms, and possibly some varieties of staphyococcus and the Pfeiffer bacillus.

7. Punctures made from the lungs during life and during the active stage of the pneumonia may show any of the above-mentioned organisms, either in pure culture or in mixed form. The question arises as to how far these organisms may be due to terminal infection.

8. The pathologic condition found in the lungs after death from pneumonia following influenza, is determined by the invading organisms.

9. Influenza is not transmitted through the air for long distances, nor is it due to weather, nor to meteorological conditions. It is transferred from man to man either directly or indirectly; either by direct contact or indirect contact.

10. In the epidemic of 1889-90, fifteen hundred deaths in New York City were attributed to influenza. This does not mean that the influenza virus alone and unaided caused this number of deaths, but it does mean that during the period of the epidemic the normal deaths were increased by this number. In Massachusetts, Abbott says, in speaking of that epidemic, that 39 per cent of the population were affected. It was less prevalent in Southern than in Northern cities. It was not only less prevalent in the South, but less fatal. In Massachusetts the disease appeared earlier and was more fatal in the more in-

tensely populated areas of that state. The ratio of deaths to the population of the state at large was about 12 per ten thousand; to those attacked it was 31 per ten thousand. The epidemic of 1889-90 was the most fatal scourge that had visited Massachusetts up to that time. It lasted about fifty days and increased the mortality in that state by about twenty-five hundred.

11. Speaking of the epidemic of 1889-90, Abbott, Secretary of the Massachusetts State Board of Health (see Twenty-first Annual Report of the State Board of Health of Massachusetts), formulated the following conclusions:

"1. The first appearance of the influenza in Massachusetts as an epidemic, in the past season, may be stated to have been on the 19th or 20th of December, 1889, and the place of its first appearance was Boston and its immediate neighborhood.

"2. It increased rapidly in the number of persons attacked, and reached its crisis generally throughout the state in the week ending January 11, 1890, after which date it gradually declined in severity, and had nearly ceased as an epidemic by the 10th of February; so that the duration of the epidemic was about seven weeks. It reached its crisis earlier by several days in Boston than in the smaller cities and the remoter parts of the state. Its course was still later in Nantucket, Dukes and Barnstable Counties.

"3. The ratio of the population attacked was about 40 per cent—or, more exactly, as indicated by the returns, 39 per cent—or about 850,000 persons of all ages.

"4. People of all ages were attacked, but the ratio of adults was greatest; of old people next, and of children and infants last.

"5. The weight of testimony appears to favor the statement that persons of the male sex were attacked in greater number and with greater severity than females.

"6. The average duration of the attack (acute stage) was from three to five days.

"7. The predominant symptoms were mainly of three general groups—nervous, catarrhal and enteric, the last being much less common than the others; the special symptoms most observed in the nervous group being extreme depression, pain and weakness; in the catarrhal group, cough, dyspnea and coryza; and in the enteric group, nausea, vomiting and diarrhea.

"8. The chief diseases which followed in the train of influenza, and were intimately associated with it, were bronchitis and pneumonia. Phthisis, when already existing in the victim of the attack, was undoubtedly aggravated; and, in many cases, a fatal termination was hastened.

"9. The ratio of persons attacked in industrial and other establishments employing large numbers was about 35.5 per cent, or less than that of the population at large. That of the inmates of public institutions was still less—29 per cent.

"10. The ratio of persons who were obliged to leave their work on account of illness from influenza was about 27 per cent of the whole number employed.

"11. The average length of their absence from work was five days.

"12. Special occupations do not appear to have had a marked effect in modifying the severity of the epidemic upon operatives in such occupations.

"13. Various theories have been advanced relative to the method of propagation or spread of influenza."

Dr. Abbott concluded, after considering the various theories concerning the spread of the disease, that it does not travel faster than the modern modes of locomotion can explain. The conclusion, therefore, is that human intercourse is the all-important factor in the transmission of this disease.

12. Lord (Journal Medical Research, 14, 295) found Pfeiffer's bacillus in pure culture in 25 per cent, and mixed with other organisms in 59 per cent of 186 cases in an interepidemic period; while he found it in pure culture in 15 per cent and with other organisms in 35 per cent of 20 cases during an epidemic. This epidemic prevailed in Boston from the last week in November, 1907, to the mddle of January, 1908. "It appears to be certain for New England, at least, that a larger proportion of the population was attacked than in any previous outbreak of acute respiratory infection since 1889-92."

13. In 1916, influenza seems to have increased. In the vital statistics report for

that year this diseases is accredited with 18,886 deaths. However, it is uncertain how many of these deaths were due to some form of pneumonia. In the annual report of the Department of Health of the State of New York for 1916, there appears the following statement:

“Notwithstanding the epidemic of influenza and infectious colds that visited the city the early part of the year, and the epidemic of anterior poliomyelitis that visited the city during the summer, the death rate was the lowest on record.”

14. Park (New York Medical Journal, October 12, 1918) has found the influenza bacillus in “almost every case of clear-cut infectious influenza. In the complicating pneumonia we have found them associated with either streptococcus or pneumococcus. In one case bronchopneumonia was due entirely to the influenza bacillus.”

15. Symmers (Ibid) calls attention to the fact that the disease kills the robust as well as the weak. He states that the disease begins in the lower lobes. “The sequence of events is that the infective organisms, acting first and particularly simultaneously upon the lower lobes of both lungs, cause a rapidly confluent variety of lobular exudative pneumonia attended by changes in the vascular structures marked by the escape into the alveoli of variable numbers of red cells and quantities of blood serum, either independently of one another or in combination.” He states that no fibrin is found in the alveoli, that the lower lobes have a slate-blue color, that they are almost completely consolidated, the edges escaping consolidation, but undergoing corresponding emphysematous changes.

16. Berg and Bullowa (Ibid.) give the symptomatology, but do not mention cyanosis or epistaxis, which have been so frequently observed by others.—V. C. V., in The Journal of Laboratory and Clinical Medicine.

THE PNEUMONIAS.

While our knowledge of acute inflammation of the lungs, known as pneumonia, is still meager and wholly lacking in many particulars, we are justified in at least tentatively and timidly making some suggestions. During the Spanish-American war we recognized typhoid fever and included all of a certain group of diseases under this designation. We now distinguish between typhoid and the paratyphoids, and of the latter we know that there are at least two. We distinguish between the bacilli causing the typhoidal diseases and we know that a vaccine which protects against typhoid does not protect against paratyphoid, and vice versa. The facts seem to justify us now in using the word pneumonia in the plural, and in speaking of the pneumonias. Of the pneumococcus there are at least four types, and possibly many more. Then there seems no doubt that the streptococcus does cause both lobar and bronchopneumonia. How many types of this organism are capable of causing pneumonia we do not know. There are cases of pneumonia in which Friedlander's bacillus is found in pure culture, and some pathologists are quite sure that this organism induces characteristic lesions which distinguish pneumonia due to this bacillus from the pneumonias due to other bacteria. During the prevailing influenza pneumonia skilled observers have obtained pure cultures of Pfeiffer's bacillus from the lungs by puncture during life. In the present state of our knowledge we may say that pneumonia may result from the growth in the lungs of the following bacteria:

(1) The pneumococcus, of which there are at least four known types.

(2) The streptococcus, of which there are many types, the hemolyticus apparently being the most virulent.

(3) The Friedlander organism.

(4) The Pfeiffer bacillus.

There is some evidence that a staphylococcus may cause pneumonia. Then, we must add the more specific pneumonia caused by the plague bacillus and which is believed to cause 100 per cent mortality.

We are beginning to realize that any bacterium which is capable of growth and multiplication in living lung tissue may be the cause of pneumonia. When such an organism multiplies in pulmonary tissue and sensitizes the body cells, the body cells begin to destroy the involving bacterial cells and the result of this change is the liberation of the protein poison with local inflammation and systemic poisoning. The poison set free is the same whatever the name or character or the invading bacterium may be.

If this conclusion be true, to what extent and from what cause may we reasonably expect the lesions to vary with variations in the kind of bacterial growth in the lung? This is an important question, and the following tentative explanation is offered. Each bacterium has its predilective tissue upon which it feeds. No living thing can grow and multiply without access to food, and nothing is food to a given organism unless it furnishes elements which can be prepared, absorbed and assimilated by the cells of that organism. As a result of ths fundamental and basic biological fact we may expect that the widely different complex tissues of the lung will vary in their suitability as food supply to the widely different invading cells. When we recall that Pasteur showed that certain bacteria act upon one form of tartaric acid and are wholly without action upon another, the two differing only in the relative arrangement of their atoms, we gain some adequate comprehension of the essential relationship between food and consumer, between nutritive medium (whether it be natural and a constituent of the living body or artificial and in the test tube), and the organism which it supports. Whether the pneumococcus, the streptococcus, the Pfeiffer bacillus and other organisms, each selects some histologic element in the lung tissue upon which it feeds, in which it multiplies and in which it is broken up by the sentized body cells, we do not know. The solution of this question should be one of the problems constantly held in mind by those who are now studying the pathology of pneumonia. Since in most cases the infection is a mixed one, this problem will not be easy of solution. At present it is certainly difficult to name the infecting agent from a study of the lung tssue after death. Still there are some suggestive findings. It is well known that the Pfeiffer bacillus will not grow on artificial culture media unless hemoglobin be present, and the fact that hemorrhages into the lung tissue and in other parts of the body are more common in influenza pneumonia than in other pneumonias may have some meaning. The fact that typical lobar pneumonia is most commonly associated with some type of the pneumococcus and that the streptococcus is often present in bronchopneumona may have a significance not hitherto attached to them.

The purpose of this writing is to make the claim that so far as the bacteriologic factor is concerned there are many species of bacteria which may cause pneumonia, and in this sense there are many pneumonias.—V. C. V., in The Journal of Laboratory and Clinical Medicine.

EMETIN BISMUTH IODID.

The Council on Pharmacy and Chemistry reports that because of the apparently good results obtained with it, emetin bismuth iodid has been accepted for "New and Nonofficial Remedies." Emetin bismuth iodid is insoluble in water and dilute acids, but is decomposed by alkalis, and thus should pass the stomach unchanged, but exert its action in the intestines. Those who have reported on the use of the drug in amebic dysentery report that the disappearance of ameba from stools was generally complete, and apparently permanent even in chronic cases of carriers, and in cases where the hypodermic administration of emetin has failed. Purging and vomiting, however, are not entirely avoided. The drug is usually given in a single dose of three grains at the midday meal for twelve days. (Jour. A. M. A., Dec. 14, 1918, p. 2013.)

GOVERNMENT INSURANCE.

Treasury Department, Washington.
December 4, 1918.

To the Soldiers and Sailors of America:

Approximately four million officers and men of the Army and Navy are now insured with the United States Government, for a grand total of almost thirty-seven billion dollars.

You owe it to yourself and to your family to hold on to Uncle Sam's insurance. It is the strongest, safest and cheapest life insurance ever written.

For your protection Uncle Sam has established the greatest life insurance company in the world—a company as mighty, as generous, and as democratic as the United States Government itself. Just as Uncle Sam protected you and your loved ones during the war, so he stands ready to continue this protection through the days of readjustment and peace.

The privilege of continuing your Government insurance is a valuable right given to you as part of the compensation for your heroic and triumphant services. If you permit the insurance to lapse; you lose that right, and you will never be able to regain it. But if you keep up your present insurance—by the regular payment of premiums—you will be able to change it into a standard Government policy **without medical examination.** Meantime you can keep up your present insurance at substantially the same low rate. The Government will write ordinary life insurance, twenty-payment life, endowment maturing at age of 62, and other usual forms of insurance. This will be Government insurance—at Government rates.

The United States Government—through the Bureau of War Risk Insurance of the Treasury Department—will safeguard you and your loved ones with the spirit and purpose of a republic grateful to its gallant defenders. To avail yourself of this protection, you must keep up your present insurance. Carry back with you to civil life, as an aid and an asset, the continued insurance protection of the United States Government.

Hold on to Uncle Sam's insurance!

W. G. McADOO, Secretary.

THE ROCKEFELLER FOUNDATION.

Extensive work in public health and medical education, and the completion of its war work, will comprise the program of the Rockefeller Foundation for the year 1919.

The estimated income of the fund for 1919 is $6,750,000, and against this the budget provides for $2,264,130 for public health and $3,662,504 for medical education. The other items of the budget are $103,000 for miscellaneous payments on long term appropriations and $146,662 for administration. The amount still available for appropriations is $465,110.

Of the income received in 1918, $2,787,406 has been brought forward to be used to meet appropriations for war work made in 1918, but yet to be paid.

The public health activities to be carried out during the year will consist chiefly of efforts against yellow fever, tuberculosis in France, malaria and the hookworm disease.

The Yellow Fever Commission, headed by General William C. Gorgas, is starting a war on the disease which it is hoped will result in its complete elimination.

The Commission on Tuberculosis in France, which during the war has been co-operating with the American Red Cross, will continue its work on an enlarged budget at the request of the French authorities.

Demonstrations in the control of malaria will be carried on in two Southern states.

The campaign aaginst the hookworm disease will be waged during the present year in twelve states of America and twenty-one foreign states and countries.

In addition to this public health work to be carried out by the Foundation's International Health Board, appropriations have been made for special studies and demonstrations in mental hygiene by the National Committee for Mental Hygiene, for the creation and maintenance of a School of Hygiene and Public Health at Johns Hopkins University, and for the development of public health nursing.

The Foundation's chief work of the year in medical education will be in connection with the development of training in modern scientific medicine in China through the Foundation's China Medical Board. This Board is developing a strong medical center at Peking, which will open this autumn, and is planning another medical school and hospital at Shanghai. The Board is also helping to strengthen medical work of other organizations already established throughout China, and is furnishing fellowships for medical study in America by Chinese physicians and nurses and of medical missionaries on furlough.

Other expenditures for medical education authorized are for special work of the Rocke-

Liquid Petrolatum Squibb

Heavy (Californian)

RELIABILITY UNIFORMITY PURITY EFFICIENCY

THE mineral oil for infants, and children of all ages. It is the palatable, safe and efficacious regulator of the bowels and needs no menstruum or flavoring. It will not form a habit.

Refined under our control, and exclusively for us, only by the *Standard Oil Company* of *California* which has no connection with any other Standard Oil Co.

E·R·SQUIBB & SONS, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

THE CITY VIEW SANITARIUM

ESTABLISHED 1907

For the Treatment of Mental and Nervous Diseases and the Addictions.

A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accomodations to meet the requirements of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65.

JOHN W. STEVENS, M. D.

PHYSICIAN-IN-CHARGE

Telephone Main 2928
Rural Route No. 1, Nashville, Tenn.

REFERENCES—THE MEDICAL PROFESSION OF NASHVILLE

New 50 Room Department Completed January, 1915

Now Have Two New Buildings, One For Each Sex

feller Institute for Medical Research and toward a contribution made two years ago of one million dollars for the development of the medical school of the University of Chicago.

Expenditures of the Rockefeller Foundation war work in 1919 will be for the following:

Continued maintenance, at the request of the War Department, of the War Demonstration Hospital.

Work of Medical Division of National Research Council, which was appointed by the President to co-ordinate the scientific resources of the nation.

Assistance in care and treatment of soldiers mentally and nervously disabled.

Payments on pledges made in 1918 to United War Work Fund and to work under the direction of the Commissions on Training Camp Activities.

DISEASES OF MIDDLE LIFE AND OLD AGE.

By Henry Wireman Cook, M. D.

The following is abstracted from an address by Dr. Cook, as published in the Minnesota Public Health Association Journal. Dr. Cook is at present serving as Secretary of the Medical Advisory Committee of the American Red Cross, at Washington. In his home city, Minneapolis, he has been a leader in public health and civic activities and has done much to promote the work of the American Society for the Control of Cancer in the local field.

Much advance has been made in the study and prevention of infectious diseases in the past twenty years, and it has proved of inestimable value in the conservation of child life and the suppression of infectious diseases. But in another class are the diseases of middle and adult life, notably cancer and the diseases of the heart, arteries and kidneys. Their prevention and cure means the ultimate conservation of invaluable human energy. Dr. Cook says in his address:

"We have been entirely too complacent at seeing valuable men dropping off in their prime—that is, between fifty and seventy, or even seventy-five. We are too much inclined to think of force and ability being associated with youth, not taking into account that today, when so many diseases have been eliminated, that if three score and ten were a proper estimate for olden times, three score and twenty or twenty-five is not excessive for today."

Bright's disease and diseases of the heart and arteries retard the brain processes and dull the capabilities of the patient by poisoning or checking the proper nourishment of the brain. Free of such diseases, mental vigor would last into old age much more frequently than at present.

It is estimated that cancer causes 15,000 deaths annually in the United States. Diseases of the heart, arteries, and kidneys count a toll of several hundred thousand deaths annually. The prevention and cure of cancer is now receiving due attention. The American Society for the Control of Cancer has spread the doctrine of cancer suppression and cure. The Minnesota Public Health Association is affiliated with this Association and distributes its literature.

Cancer is of "greater frequency at ages over forty than pneumonia, tuberculosis, typhoid fever, or digestive diseases." It proves fatal in over 90 per cent of the attacks. It occurs and often kills its victims when they are in the stage of life during which they are most needed by society. "If taken in the beginning, the majority of cases of cancer are curable, but the only cure is the removal of every vestige of the disease."

The occurrence of cancer is usually associated with some form of injury or long continued irritation of body tissue. Because it rarely causes pain in the beginning, it is often neglected. The following precautions should be rigidly exercised:

Seek early examination by a competent prysician in case of

(1) Any chronc sore, lump, an irritated or growing mole.

(2) Chronic indigestion, after forty, particularly with vomiting.

(3) Persistent abnormal uterine discharge, particularly if bloody.

Never be afraid to know the truth. Delays are always dangerous, sometimes fatal.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., FEBRUARY, 1919 NUMBER 10

AN EPIDEMIOLOGIC STUDY OF THE RECENT OUTBREAK OF EPIDEMIC INFLUENZA IN NASHVILLE, TENNESSEE.

By R. C. Derivaux,
Past Assistant Surgeon, U. S. Public Health Service.
W. E. Hibbett, M. D.,
City Health Officer, Nashville, Tennessee.

A decidedly sharp outbreak of acute respiratory disease, which can, for lack of a better term, be referred to for the present as "epidemic influenza," made its first appearance in Nashville during early September, and noticeably, about September 16, 1918. There is no doubt that isolated cases had already been present for some time, though no information had as yet been received indicative of definite invasion of this section by the pandemic which was gradually sweeping the United States. During the succeeding ten days case incidence increased rapidly, when, by September 26, 1918, it was obvious that epidemic proportions had been attained.

It is quite impossible to arrive at more than an approximate idea as to total numbers of cases, as the disease has not, in the past, been reportable, nor was it so made during the existing emergency. This is not in accordance with the course of action pursued in many large cities, where reports of cases were required of physicians, but it is believed that subsequent developments have shown the questionable value of this procedure and of such data as were so accumulated; lack of standards for primary diagnosis, disaccord among sanitarians as to the precise nature of the disease and the fact that physicians in local practice were on almost constant duty, day and night, visiting large numbers of cases—several members of a family, in many instances—are among the reasons that reliable reports could not have been reasonably expected. Such numerical estimates, therefore, as will be referred to in this review are based entirely upon verbal communications of physicians, and, more particularly, upon the daily reports made available by the public health nurses of the City Healthy Department, whose routine duties were early subordinated to the more pressing needs for epidemic relief. By the end of September it is estimated that a total of not less than 12,000 cases had already occurred, including those then ill; it should be added that, in this connection, this estimate is held to include ALL cases of acute respiratory disease, regardless of severity, and varying in intensity from mild colds to and including frank pneumonias.

Without going deeply into clinical detail, it may not be amiss to state that, by far, most of the cases seen were quite mild in character and, beyond routine instructions and advice as to personal precautions and care, could hardly be considered as in need of the continued services of a physician.

The various clinical types met with during the outbreak may be somewhat diagrammatically classified as follows:

Epidemic Influenza.

I. Acute uncomplicate.
II. Subacute.
III. Fulminant.
IV. Pneumonic—(a) Broncho or lobular;

(b) lobar; (c) pulmonary oedema.

V. Gastro-intestinal.

VI. Meningeal.

The continued progress of the local epidemic may be followed by examination of events during the last few days of September and the first two weeks of November. Beginning with the assumption of epidemic proportion on or about September 26, 1918, a progressively rapid increase occurred, to and through the period of October 4 to 7, when the maximum or apex of local incidence was attained. From this point, at which but few families in Nashville were free of the disease, and of which mild and ambulatory cases were moving freely about in public, a rapid decline occurred; by October 15 new infections had been reduced to a very small daily number, and October 20, 1918, has been fixed as the date of termination in an epidemic sense.

It is of interest to note the progressive extension of the epidemic into and from the various sections of Nashville. In the absence of specific morbidity data, no spot map was possible of preparation, though the sectional invasion of the city was quite strikingly shown. Epidemic aspects were first clearly assumed in South Nashville, a densely settled section housing a large industrial element of population and including many Powder Plant workers; East Nashville and the center of the city, likewise densely populated by working people, were next invaded; finally North and West Nashville, less dense, though largely industrial sections, became the centers of highest incidence, and this some time after subsidence of the outbreak in the areas first named. The inferences of interest in this connection are those of the relationship of density and character of population to the epidemic, and of the influenza of temporary congestion and intermingling incidental to the added increment of Powder Plant employes and their dependents.

Measures for Control and Relief.

With the continued and progressively increasing accumulation of cases of influenza, it was early seen that organized measures would be needed for their relief. Early in the outbreak, the efforts of the city public health nurses had been diverted from their usual channels and applied exclusively to the relief of the needy, as well as to the location and classification with reference to severity of developing cases.

On September 30, 1918, telegraphic instructions were received by the writer to assume charge of the situation at the Old Hickory Plant and vicinity and engage in such relief and preventive activities as were indicated. A number of physicians (acting assistant surgeons) were also assigned to duty in the Nashville zone by the Surgeon-General, and were detailed to local duty during the first week in October, 1918. Extraordinary local conditions, with reference to general congestion of population, crowding of families in temporary and uninhabitable buildings, etc., all incidental to the addition of an approximately 30 per cent increase in population consequent to the location of the Powder Plant at Hadley's Bend, rendered the local epidemic situation more acute. An immediate reflection of this congestion was early shown in the demand upon the city hospital for admissions far in excess of the capacity of this institution; voluntary applications, and reference to hospital of cases by well-intentioned individuals and organizations, soon brought up a pressing question for decision. In view of the certainty that local hospital facilities could not be even partially adequate to the needs of the local situation, careful consideration was given to the advisability of organization of emergency hospitals. The advisability of this rocedure, always of questionable expediency, was made further uncertain by the great scarcity of available physicians and nurses, due to national demands incidental to a state of war. It was accordingly decided that every effort should be bent toward isolation and treatment of cases in the homes, rather than incur the certain limitation of the professional services of what few physicians and nurses were available to a comparatively small number of people, and this, further, under the disadvantageous circumstances of temporary organization. The method elected, then, of centrally organized house-to-house relief, was elaborated and employed, and with excellent and gratifying results. In brief, the routine adopted was that of centralization of all activities in the office of the City Health

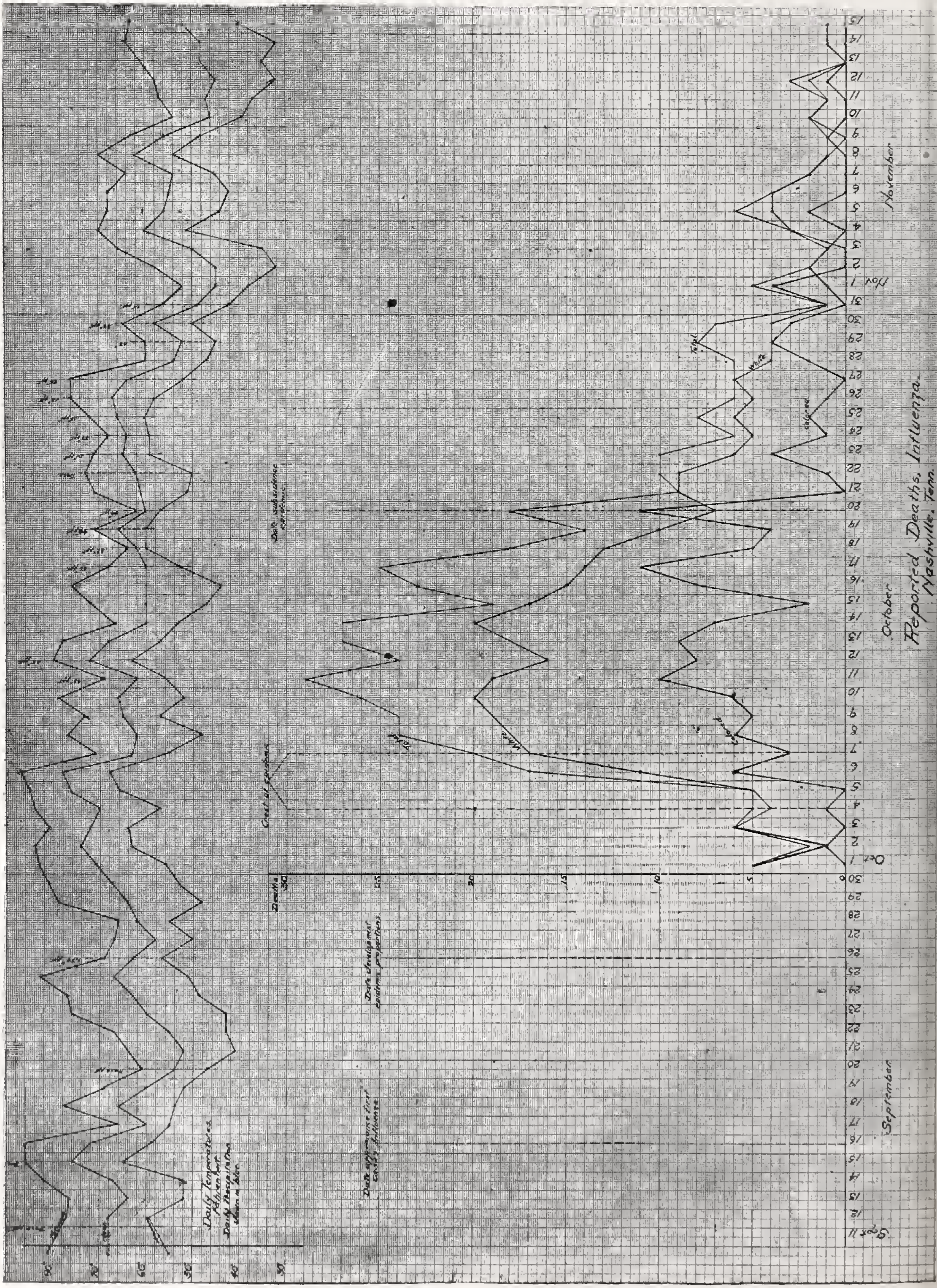
Officer, and visitation of as many families and cases by public health nurses as possible, these reorting to the Health Department such cases as were in need of a physician's care; this latter group was then visited by a physician and his decision, and this only, made the prerequisite for admission into the City Hospital, where two additional physicians and a number of nurses, supplied by United States Public Health Service, had been assigned to temporary duty. In this way, the overwhelming congestion at the hospital was early relieved, and cases admitted at the discretion of physicians where hospitalization was deemed essential. Transportation for the visiting physicians and nurses was supplied by the motor corps of the Nashville Red Cross chapters. In addition to medical relief, material aid was also made available through the co-operation of the Nashville chapter of the Red Cross, the Nashville Golf and Country Club and the Centennial Club, whose activities had been co-ordinated into the program jointly instituted by the Public Health Service and the Nashville Health Department.

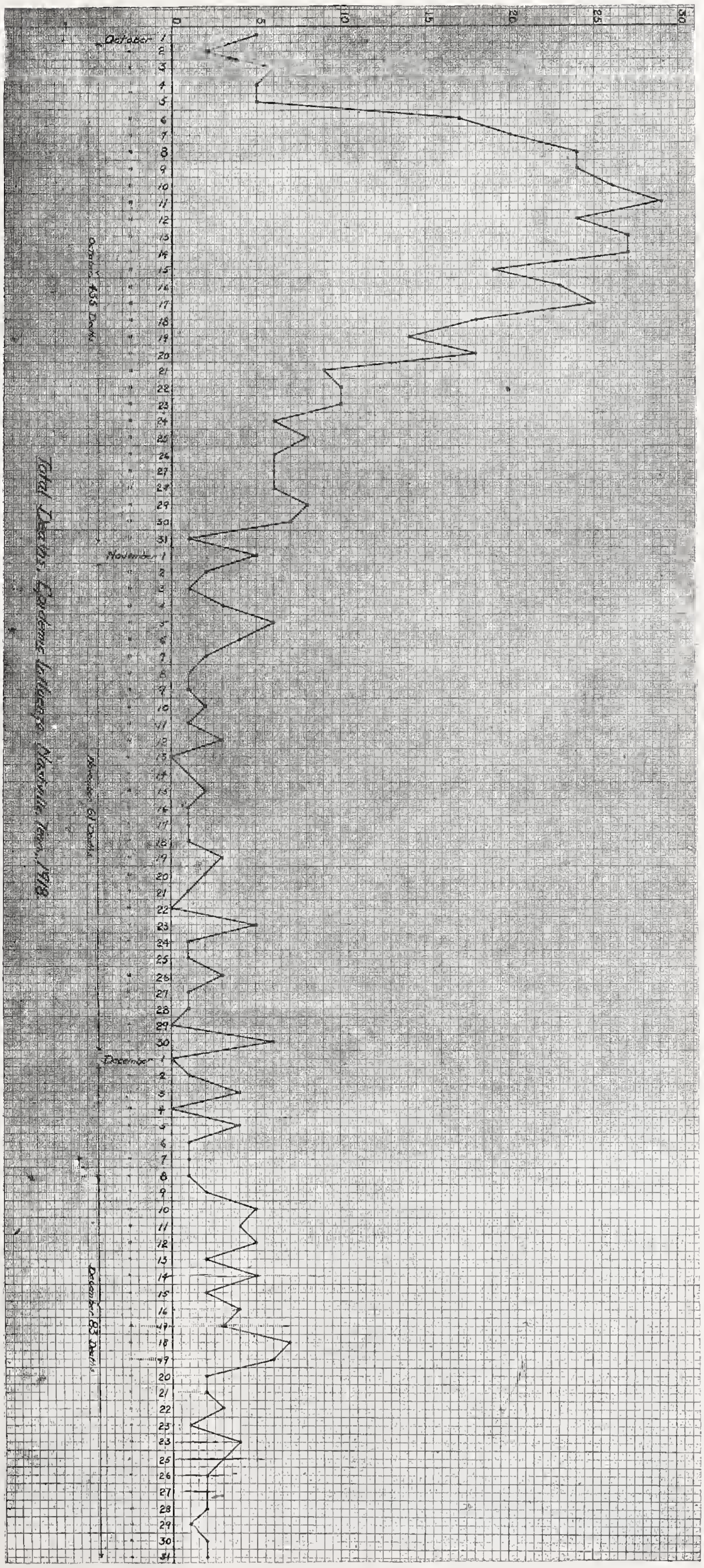
The principal measures of public control employed were those of the utilization of the valued co-operation of the press for dissemination of advice and information as to the nature of the disease, and frank statement of conditions for the prevention of public hysteria. Careful consideration was early given to the question of closure of schools, churches, and other places of nonessential congregation, and, following conference with Dr. Olin West, State Health Officer, closure was put into effect on October 7 with reference to theaters, etc., and on October 9 in the case of schools; this action is not believed to have been productive of any high degree of influence on the further course of the outbreak, and, consistent with the continuation of the decline in ease incidence and deaths, restrictions were removed on November 1, 1918. During the early part of the outbreak, ventilation of the street cars was advised, and placards were used in cars to further instruct the traveling public as to the nature of the disease. Masks were not advocated, nor vaccines employed.

Epidemiologic Considerations.

Utilizing the foregoing as a background, and by analysis of the reported deaths, it is possible to derive epidemiologic data that are of interest, and have instructive features with reference to the study of this disease. In the absence of specific knowledge as to the actual etiology of epidemic influenza, it is difficult to trace its origin or establish the date of its first appearance in Nashville. It is probably agreed that epidemic influenza is a disease of humans, transmitted from man to man directly by contact ("droplet inflection," incipient cases and "contacts"), and is only in a very secondary way disseminated through the intermediation of fomites. The world-wide distribution of the disease, intimate contact of people, travel, congestion in offices, elevators, and other places of assembly render practically impossible any scheme of restriction by quarantine. It is inevitable, then, that under pandemic conditions, a city be infected, and the degree and rapidity of its invasion contingent entirely upon local peculiarities. In Nashville the referred to congestion of population and highly abnormal relations with all parts of the country, due to immigration of workers concerned with the Powder Plant, were favorable to a quick development of the outbreak and for its perpetuation through a constant addition of "non-immunes" from elsewhere, principally the southwest.

The Weather.—The influence of climatologic conditions on the local development of epidemic influenza is of unusual interest, and may be followed by examination of the fluctuations in temperature, etc., shown on the accompanying curve of deaths (Figure 1) and from the dates of accompanying rains. Throughout September a fairly constant temperature was sustained and continued well into October. It will be noted that two "cool periods" occurred on September 16 and 26, each of these dates being marked by a "trace" of precipitation; it will be remembered that September 16 has been given as the date of first appearance of cases of epidemic influenza in considerable numbers, and September 26 as the date of onset of the general epidemic. The referred to cool periods were unquestionably of high importance in connection with the development of the local outbreak. Nashville was later favored by continued fair weather and partially cloudy days between


Reported Deaths, Influenza.
Nashville, Tenn.
September
October
November
Sept 11
Oct 1
Nov 1
Total
White
Colored
Deaths 30
25
20
15
10
5
0
Crest of epidemic
Date subsidence epidemic
Date development epidemic proportions
Date appearance first cases influenza
Daily Temperatures Fahrenheit
Daily Precipitation shown in blue
90
80
50
40
30


Total Deaths, Epidemic Influenza Nashville Tenn. 1918
October
November
December
October 435 Deaths
November 61 Deaths
December 83 Deaths
0
5
10
15
20
25
30

September 26 and October 11, a factor of great benefit in that many cases retained mild attributes which inclement conditions might have altered unfavorably. A rain of .43 of an inch fell on October 11, after a considerable drop in temperature (about 15 degrees) during the preceding few days; a small rainfall (.05 inch) is recorded as having fallen on October 12. These changes in temperature and rainfall were not followed by any increase in the incidence of cases—rather, on the contrary, proving of benefit in suppressing dust and thereby limiting bronchial injury. No frosts are reported as having occurred in either September or October.

Analysis of Reported Deaths.—On the referred chart (Figure 1) are graphically shown the daily reported deaths, and their relation to the weather conditions referred to, also the significant dates with reference to epidemic conditions, onset, maximum incidence, and decline. Two deaths are reported as having occurred in latter September, and are not hereon shown. The present analysis has been made of all deaths the certificates of which carry an assignment of influenza as either the primary or secondary cause. No effort has been made to apply a correction representative of what the **normal** losses from pneumonia should have been—a factor which, while of unquestionable interest, would have but small bearing upon the present study. It will also be noted that the daily deaths reported to have been analyzed up to and including November 15; as demonstrated in the curve, it is quite evident that but little would have been gained through further extension of these periods.

Of a grand total of 468 deaths recorded between the given dates, 435 occurred during October, and 33 during November. The greatest loss of any given day occurred on October 11, when 29 deaths took place, and this but one week after the "peak," or apex of incidence had been attained. This "lag" represents the period during which a sufficient number of severe cases occurred, or in other words, an accumulation had taken place. This time period is also illustrative of the approximate duration of cases of unfavorable prognosis.

In the following table (Table 1) are shown the daily records of deaths among whites and colored for the "epidemic period," and for the remainder of the calendar year:

TABLE 1.

Reported Deaths from Influenza at Nashville, October 1 to December 31, 1918.

OCTOBER.				NOVEMBER.				DECEMBER.			
	White.	Col.	Total.		White.	Col.	Total.		White.	Col.	Total.
	White.	Col.	Total.		White.	Col.	Total.		White.	Col.	Total.
Oct. 1	5	0	5	Nov. 1	4	1	5	Dec. 1	0	0	0
Oct. 2	1	1	2	Nov. 2	0	2	2	Dec. 2	0	1	1
Oct. 3	6	0	6	Nov. 3	0	1	1	Dec. 3	2	2	4
Oct. 4	4	1	5	Nov. 4	3	0	3	Dec. 4	0	0	0
Oct. 5	5	0	5	Nov. 5	4	2	6	Dec. 5	1	3	4
Oct. 6	11	6	17	Nov. 6	4	0	4	Dec. 6	1	0	1
Oct. 7	17	3	20	Nov. 7	2	0	2	Dec. 7	1	0	1
Oct. 8	18	6	24	Nov. 8	1	0	1	Dev. 8	1	0	1
Oct. 9	19	5	24	Nov. 9	0	1	1	Dec. 9	2	0	2
Oct. 10	20	6	26	Nov. 10	2	0	2	Dec. 10	3	2	5
Oct. 11	19	10	29*	Nov. 11	1	0	1	Dec. 11	2	2	4
Oct. 12	16	8	24	Nov. 12	2	1	3	Dec. 12	4	1	5
Oct. 13	18	9	27	Nov. 13	0	0	0	Dec. 13	2	0	2
Oct. 14	20	1	27	Nov. 14	1	0	1	Dec. 14	3	2	5
Oct. 15	17	2	19	Nov. 15	2	0	2	Dec. 15	1	1	2
Oct. 16	15	8	23	Nov. 16	1	0	1	Dec. 16	4	0	4
Oct. 17	14	11	25	Nov. 17	1	0	1	Dec. 17	2	1	3
Oct. 18	13	5	18	Nov. 18	1	0	1	Dec. 18	5	2	7
Oct. 19	10	4	14	Nov. 19	2	1	3	Dec. 19	5	1	6
Oct. 20	7	11	18	Nov. 20	2	0	2	Dec. 20	1	1	2
Oct. 21	9	0	9	Nov. 21	0	1	1	Dec. 21	1	1	2

Oct. 22	9	1	10	Nov. 22	0	0	0	Dec. 22	3	0	3
Oct. 23	6	4	10	Nov. 23	3	2	5	Dec. 23	1	0	1
Oct. 24	5	1	6	Nov. 24	1	0	1	Dec. 24	3	1	4
Oct. 25	6	2	8	Nov. 25	1	0	1	Dec. 25	2	1	3
Oct. 26	5	1	6	Nov. 26	3	0	3	Dec. 26	1	1	2
Oct. 27	6	0	6	Nov. 27	1	0	1	Dec. 27	1	1	2
Oct. 28	4	2	6	Nov. 28	1	0	1	Dec. 28	2	0	2
Oct. 29	4	4	8	Nov. 29	0	0	0	Dec. 29	1	0	1
Oct. 30	4	3	7	Nov. 30	4	2	6	Dec. 30	1	1	2
Oct. 31	1	0	1					Dec. 31	1	1	2
Totals	314	121	435		47	14	61		57	26	83

*High point.

Of the above, the cause of death is given in the 468 certificates recorded between October 1 and November 15, as follows:

TABLE 2.

Reported Cause of Deaths—Primary and Secondary.

"Influenza" primary diagnosis in 22, or 47.4 per cent of 468 fatal cases.

"Pneumonia" primary diagnosis in 288, or 50.9 per cent of 468 fatal cases.

"Influenza" secondary or contributory diagnosis in 243, or 51.9 per cent of 468 fatal cases.

"Pneumonia" secondary or contributory diagnosis in 11, or 23.7 per cent of 468 fatal cases.

Race Incidence.—In the subjoined table (Table 3) are given the relative numbers of deaths occurring among whites and colored, and the totals of deaths by sex:

TABLE 3.

Racial Distribution of Deaths (Oct. 1-Nov. 3).

Total deaths, white males	153
Total deaths, white females	186
Total deaths, whites (72.4 per cent)	339
Total deaths, colored males	53
Total deaths, colored females	76
Total deaths, colored (27.6 per cent)	129
Total deaths reported	468

As may be noted on the chart (Figure 1), the total deaths among whites were in marked excess of those among colored, with the exception of those of one day (September 20), when a non-significant excess in colored deaths is shown. The greater number of deaths among whites is not believed to represent a higher case fatality rate in this race, nor a relative immunity among negroes, but, rather, to suggest the relative incidence of the disease among whites, proportionate to population (there are said to be about 65 per cent whites and 35 per cent colored among Nashville's total population).

Age Incidence.—It is of particular interest to note the relative numbers of deaths occurring in the several age groups and life periods. These are shown in the accompanying table, as follows:

TABLE 4.

Showing Deaths by Age Groups (468 Deaths, Oct. 1-Nov. 15).

Age Group.	No. of Deaths.	Pct. of Total.
1 to 6 months	7	1.5
6 months to 1 year	15	3.2
1 to 2 years	42	9.0
3 to 4 years	32	6.8
5 to 9 years	36	7.7
10 to 14 years	20	4.3
15 to 19 years	40	8.6
20 to 29 years	110	23.5
30 to 39 years	83	17.7
40 to 49 years	46	9.8
50 to 59 years	14	3.0
60 years and up	23	4.9
Totals	468	100.00

From the above data, it will be noted that 110, or 23.5 per cent, the greater number of deaths, occurred in the "20 to 29" year group, and that the next greatest number, 83 deaths, or 17.7 per cent, occurred in the group 30 to 39 years. This is taken to be indicative of proportional deaths in groups of people exposed, and whose resistance would most logically be at a lower level because of hazard and fatigue due to occupation, rather than any increase of susceptibility of adults who should be at their prime of life. In the table (Table 5) which follows, the deaths by age groups have been assembled into four arbitrary life periods, from which this inference is more strongly shown:

TABLE 5.

Showing Death by Life Periods.

	Deaths.	Pct.
1 month, 9 years (infancy and childhood	132	28.2
10 to 19 years (adolescence)	60	12.8
20 to 49 years (active adult life)	239	51.1
50 years and over (middle and old age	39	7.9

One point is worthy of special mention, and that is a remarkably high incidence (death rate) among female children; between infancy and the ninth year deaths among females totaled 71, or 27.1 per cent of all female deaths, and 15 per cent of the total recorded deaths in all groups. No explanation of this observation has presented itself.

Case Estimates and Estimated Morbidity and Mortality Rate.

During the course of the outbreak, and between middle September and November 15, it is estimated that not less than 40,000 cases of epidemic influenza occurred in Nashville proper. This is equivalent to approximately one-third of the total population as given by the Bureau of the Census; this latter figure is manifestly inaccurate in view of the large increase due to immigration consequent to the location of the Powder Plant at Hadley's Bend, hence provisional estimate is necessary for present purposes. It is believed that a total of about 155,000 persons would more nearly represent conditions as to population during the epidemic period, and this figure has been, hence, used in the present computations. Based upon these data, the case incidence or morbidity rate in Nashville was 264.5 per thousand, or 26.45 per cent of the gross population. Of the estimated total of 40,000 cases, 435 deatas occurred in October and 33 up to November 15—a total of 468 as shown; of these, therefore, on the same basis of calculation, the case fatality or death rate becomes 1.17 per cent. In the following table (Table 6) are presented comparative figures with certain of the larger American cities:

TABLE 6.

Deaths Among All Ages in a Number of Typical Cities.

City.	Population.	Deaths Influenza, Pneumonia.	Rate Per 1,000
Milwaukee	453,381	614	1.4
Indianapolis	289,577	427	1.5
Los Angeles	568,495	1,214	2.1
Louisville	242,707	610	2.5
New York	5,737,492	19,357	3.4
Providence	263,613	994	3.8
Boston	785,245	4,355	5.5
Baltimore	599,653	3,685	6.1
Philadelphia	1,761,371	12,665	7.2
Nashville	**155,000**	**468**	**3.0**

Taken from U. S. Census reports up to November 9, 1918, and quoted in Journal A. M. A., December 7, 1918.

Volume 71, No. 231, p. 1910. Heiser, V.

Conclusions and Lessons for the Future.

Probably the most important public lesson derived in connection with the recent pandemic is that of realization of the futility of so-called "measures to prevent spread." Experience throughout the states seems to indicate that the disease ran a fairly uniform course, and this regardless of what was done or of what, either through ignorance or intention, was left undone. Quarantine, the ideal panacea in a theoretical sense, has been shown to be absolutely useless, and restriction of congregation of persons, closure of schools, churches and other places of public assembly have probably played a role of but slight importance as a measure for life conservation.

By far the measure of highest importance has been shown to be in that of the extension of relief to the ill, their early detection and instruction, and the dissemination of practical advice by means of the press for the alleviation of public panic. It is manifestly impossible to maintain local organizations at a degree of perfection competent to cope with emergency or other extraordinary situations, but no effort should be spared that the ground work for such an organization be constantly available; this refers to the City Health Department. Increased facilities in the Department of Health Nursing, adequate means for systematic and rapid transportation, and clerical assistance are fundamental needs which should not be permitted to go unprovided for.

Likewise it has been shown that hospitalization or congregation of cases in numbers is not to the best interests of the ill; consideration should be given, however, to provision of facilities for the temporary institution of small "block" or tent hospitals at some easily accessible and well located place should a future emergency arise.

Appreciate tribute is due the magnificent work of the Health Department of the city of Nashville, and, more especially, to its Public Health Nurses, around whom local efforts for relief were organized. Thankful acknowledgment is likewise due the Nashville Chapter of the Red Cross, the Motor Corps Branch of the Red Cross, the Centennial Club, the Nashville Golf and Country Club, and the press of Nashville for invaluable co-operation and public assistance, whereby words of mercy and of education were possible of extension to a degree that would have otherwise been unattainable.

THE SOCIAL EVIL.*

By C. A. Abernathy, M. D.,
Pulaski.

(Read in the Methodist Church in Pulaski, to a meeting of men only.)

I am not accustomed to address a promiscuous audience in a church on a medical topic, and I feel somewhat at a loss how to proceed. There are so many technicalities connected with our science that are not familiar to the layman, and yet they so express the meaning and facts of diseases and their prevention, that it will be difficult to entirely eliminate technicalities and high-sounding phrases and Latin and Greek words from the subject which I shall present to you tonight; but I shall deal in them as sparsely as my vocabulary will allow, that you may understand what I am trying to present to you.

"The social evil," and the two diseases which accompany it, is one among the great evils which afflicts the human race of today, and it is timely that these clerical gentlemen should present some of the facts pertaining to the same in the manner selected here tonight. It is my purpose to present to you some of the facts relative to gonorrhea, or "clap," and syphilis or "pox" or 'lues venerea."

These diseases have existed from the earliest periods of time, and seem to be a fixed penalty for the violation of those rules of morals and chastity which should guide and govern the conduct of men who are not pure and upright, and not chaste in their lives and habits. They seem to be a ban upon lewdness, lasciviousness, and immoral sexual contact.

Gonorrhea and syphilis are among the great scourges of the human race, and their prevalence is most startling. These diseases are somewhat concealed, on account of the odium which attaches to them, and their manner of acquirement. To let you understand the great prevalence of them, I am quoting from Reynold Wendel Wilcox's book on practice, which will give some statistics on the subject of gonorrhea as developed in the New York hospitals. He claims that 80 per cent of the married women of New York City operated on in hospitals for pelvic diseases are suffering from gonorrheal infections from their husbands, whose youthful and later indiscretions are responsible for their ills. And that the vast number of immoral and lewd women of the city are gonorrheal infection carriers, and that they disseminate the disease to all who have sexual congress with them.

It is claimed or asserted that there are eight million people in the United States who are infected with syphilis and gonorrhea, but I do not know that this vast number is actually true.

---

*As the State Board of Health is beginning a campaign against venereal diseases, and as the War Department, through the Medical Department, has instituted rigid care to prevent these diseases from contaminaton of the American soldiers who have been called into the great Europear War, I have decided to publish this article with the hope that it will protect some young man or innocent wife from such contamination. My paper was read before men only at the Methodist Church in Pulaski a short while ago, and by request, before the Giles County Medical Society, where it met the approval of the profession, and it was then suggested by the Society that it be published in pamphlet form and sent out, but, instead, I am publishing it in your Journal.

That you may realize some of the ravages of this disease, I want to name some of the conditions and pathology which are caused by the disease. Gonorrhea has a specific cause or germ, which has been determined and so conclusively proven that it is beyond controversy, and the name of the germ is gonococcus. In the sexual contact with the infected individual this micro-organsm or small body comes in contact with the male or female organ, as the case may be, in the act of coition, and finds lodgment on the mucous membrane of the male urethra or female vagina or urethra, and begins the work of its infection. From this focus of infection myriads of these germs are generated and conveyed back into the posterior portion of the urethra, and bladder, then into the blood, and through the blood stream all through the body, when we may have what is known as gonorrheal septicaemia, or blood poisoning, as a result of this blood contamination by this specific germ. There often results gonorrheal rheumatism. In women, many of the pelvic diseases, as pus-tubes, diseased ovaries, etc., are caused by the genococcus.

Blindness is one of the frequent results of gonorrhea. This occurs so frequently to the new-born child in its mother's womb, and in its transit into the world that it becomes infected from the specific germ latent, perhaps, in the vagina, that there is a law on the statute books of Tennessee that every obstetrician who delivers a child must use a disinfectant, or germicide, in the new-born child's eyes as soon as it is born—and this is imperative.

The time should be passed when the young man should regard his clap as nothing worse than a cold in the head. It has been proven that this germ, the gonococcus, remains active long after the urethral discharge ceases to be virulent, and even years afterwards, when the possessor of this germ in the urethra may believe himself cured, he can be as capable of mischief to others as in the earlier stages. So you will see that this disease is one of vast importance to the young man, or the older man, for that; as it is capable of great damage to himself, and, worse than that, it may be conveyed to an innocent woman, his young wife, and child.

The next disease, syphilis, pox, lues, is, perhaps, more disastrous in its effects and ravages. It, too, has a specific germ—the "spirocheta pallida," which may be contracted by sexual contact, by kissing one with a syphilitic ulcer on the lip, by the drinking cup, or by inheritance from an infected father or mother; but the chief source of infection is through coition, when one of the parties implicated in the act is already infected with this specific disease.

The ravages upon the human system by this disease are most horrible to relate. This micro-organism enters through the blood stream of the body, and may effect every tissue, mucous membrane, skin, bone, brain, spinal cord, arteries, lymph glands, teeth, hair, besides all of the larger organs and system of organs of the human frame.

The infected husband may convey the disease to his innocent wife and unborn babe, who may come into the world a real syphilitic.

This disease has always proven a most intractable one, and requires the most powerful of the medicines in our possession to combat. The great German pathologist and chemist, Ehrlick, experimented on lower animals with arsenical preparations for 605 times, trying to obtain a remedy which, when injected into the vein of the human body, would destroy the spirochete, or germ of syphilis, without destroying, by its poisonous effects, the human being. In his 606th experiment he secured the remedy known as "606," or salvarsan, and in this drug we have a means of combatting largely the disease. I mention this to show you how much importance the medical profession attaches to the difficulty of curing this disease, and the great research which our science is putting forth to give some relief from it.

To estimate the effects of these diseases on the human system, I must tell you that the life insurance companies, whose business it is to compute longevity and expectancy of life, in their examinations for all life insurance policies investigate closely the history of all venereal diseases. Many an applicant has been "turned down" by the companies on account of previous histories of the diseases, and because of their effects on the bodies and lives of persons so afflicted.

It is a fact, too, that the great corporations where large numbers of persons are employed in the work of these great plants reckon with syphilitic and gonorrheal applicants as persons undesirable and as unworthy of the protection of accident insurance, because their resistance is lowered and their chances of recovery, when injured or sick, are limited. In my own experience, I have seen syphlis destroy the lives of young men. I will mention one case, where the aorta, the great blood vessel leading off from the heart to convey the blood, became involved as the result of syphilis. This young man suffered indescribable agony, and when the walls of this blood vessel were eaten in two, the patient died instantly—died of flooding of the heart with his own blood. I have seen the syphilitic paralytic where the germ invaded the motor cells of the spinal cord, destroying motor ganglia, which supplied nerve force to the nerves of the lower limbs, thereby causing paralysis and a permanent dragging gait. I have seen the bridge of the nose eaten off, the soft palate of the throat entirely destroyed, the skin blotched and broken out, the hair drop out, the brain develop gumma, or syphilitic tumors. I have seen the new-born baby present the most loathsome evidence in its body of infection from an infected father. I have seen a fine young wife become infected from a husband who had contracted this disease and supposed he was cured before marriage, but was not. I cannot portray to you too strongly the horrors of this disease and its ravages upon the bodies and lives of those afflicted with it.

It has been said that there are one hundred thousand luetics in the city of Paris, more in the city of New York and Chicago, and a similar ratio will obtain in prevalence in the smaller cities and towns. I want to admonish you young men, and older men, that these diseases are not confined to the cities, but that they exist in Pulaski and Giles County, and that sexual contact with lewd women, white and black, and more especially black, may infect you and blast your life.

The great French writer, Brieux, impressed with the disasters of this disease, that the public and the people might be enlightened on the subject, wrote a book which he denominated "Damaged Goods." This novel was dramatized and put before the footlights, that the people might lear something of this dreaded disease, how it was acquired, how it was communicated to an innocent and pure woman and wife, and to her child afterwards born. The tragedy is the old story, but the facts were brought out anew, so as to emphasize some phases of this disease which the people do not know of.

Briefly, the story relates the life of a gay young fellow in Paris whose income was sufficient to allow him indulgences of many kinds. He had his woman, as he supposed, an innocent and unsoiled person, and with her he lived in open adultery, maintaining her in a remote part of the city. Here he reveled in his libidinous lust, until lo! a sore appeared on his genitals. He consulted his physician, a scientific and conscientious man, who told him that his supposed unsoiled dove had infected him, and that it would take at least three years before he could be assured of any positive cure, and perhaps not then. In the meantime, he had engaged the heart and affection and promise to marry of a pure young woman, whose social and financial position was equal to his. The time set for marriage arrived before he was cured. He was impatient and impetuous, and blamed his doctor that he was not cured, but the doctor was not to blame. The disease in this case, as it does in many others, had fixed itself so firmly in his blood and tissues that it would not yield, and he was told to procrastinate, to feign tuberculosis, and go away. This he did. He could not tell the woman who had given to him her heart and hand his real trouble, so she accepted the theory of tuberculosis, and her heart, woman-like, went out in sympathy and love to this leper. The time went on, both growing impatient for the marriage. The old doctor was importuned again to know if it was safe to marry. He gave positive answer that it was not. The young man grew impatient, visited a blatant so-called specialist, who advertised to cure venereal diseases in ninety days. He was employed, and at the expiration of the ninety days, he was pronounced cured by this charlatan and went on and married the pure, chaste young woman. A year rolled by, a child was born. It was a weazened thing, with shriveled features, pimpled skin, soft bones, enlarged glands, and many other of the characteristic symptoms of congenital inherited syphilitis. The germ spirochete had been transmitted from the father's blood through the seminal fluid, and when the ovum of the woman was fructified by this male sperm, it carried with it not only the essential to a new life, but it also carried with it this withering, blighting spirochete, which not only dwarfed and dwindled this new life in an incomplete development physically, but it diseased the child beyond cure. It also infected the blood of the mother in her womb. The story continues to show the tragedy, the misery, the unhappiness, the death of the child from syphilis, the diseased and lingering condition of the mother, infected from the father, her death, and finally, whisky, wine, beer, morphine and suicide of the father. It is a fiction based on facts so real and so true that I bid you young men read the story, for it may divert you from a similar life. "Damaged Goods" has been put on the stage, and it has met the approval of church and clergy everywhere, because it teaches a lesson vividly as to this disease, syphilis, that is more often enacted than is really known.

I do not mean, nor would I have you understand that all of these cases of gonorrhea and syphilis are not cured. Not so; many of them are cured, but many of them are not, but linger through life to blast and blight existence, young man. One never knows which course his case will take, and "if the primrose path to dalliance you tread," you take a hazard and a risk as dangerous as the battle line.

Then, what is the remedy? **Prevention.** How prevention? Abstinence, lives of chastity, lives of moral uprightness, of chaste thinking, and acting. To maintain this will require manly conduct, self-denial and lofty purpose and aim.

Let me admonish you again, have no sexual contact with lewd women. Keep yourself clean and uncontaminated, for "pleasure a moment's amuse, is too often followed by an age of repenting." And these pleasant vices are made the whip to lash us with. The sexual function should be exercised for procreation, and not for pleasure.

There are two things I would advise you on also.

Self-abuse demoralizes you, lowers self-respect, degrades you, impairs health, wrecks nerves, and makes a degenerate below the brute. Abstain from this practice, I admonish you.

I cannot close this subject without speaking of another sociological subject, which has distressed me and continues to do so daily.

If you only observe the negro school children who pass by your house each day to the public schools which the white people of the town, county and state are taxing themselves for, you will see an appalling mixing of the Caucasian and African blood. I estimate that 30 per cent of the negro children who go to our public schools are mixed blood. What a portentous fact! And if this continues you can see what it will lead to in a hundred years. When Rome was at her zenith of power and civilization, the senators and those of high station in life began the mixing of their blood with the captive slaves. That was the beginning of her decadence and downfall. And where will our boasted civilization stand when the Caucasian race is blended with the African?

It is too horrible to contemplate, and yet it is a condition you can see if your eyes will only behold what I relate, and where it will end if it is not stopped. In my opinion, the lawmakers of our state should be wise enough to take this matter up, and make the penalty so great on the white man who cohabits with the negress that it will deter the young man from coition with the negro race. There should be such an odium attached to this vice that it would ostracize the white man who would debase himself and his offspring by the mixing of his blood with the African.

I think I am talking to men—young men—tonight who are genuine American patriots and noblemen, and that hold high and lofty ideals on this subject, and that they will lead clean lives and will not yield to the tempter and be led astray into paths which will entail any of the two diseases of which I have spoken, but that, justified by lofty sentiments and ideals, and remembering that you are American white men, you will maintain the high standard of men of America.

A great task and duty now devolves upon this nation of ours. It is the most momentous epoch in the history of the world. Locked in death grapple for victory, the vast armies of Europe and America are today fighting the most gigantic battles ever known. The face of God seems turned away from the spectacle of hunger, sorrow and slaughter of human beings. The page of civilization has been turned back to savagery and cruelty, and men are slain in battle by the millions. The Prince of Peace has been trampled under foot by the ambition and self-seeking power of rulers. The vast resources of food and finance are being consumed by the ruthless hand of war. The whole of Europe is badly bankrupt. God of Peace, when will it end, and when will thy hand interpose?

In this great world tragedy destiny, not of our own choosing, has brought our country into this maelstrom, and the powerful arm of our nation has been raised in behalf of "liberty, justice and humanity and peace and democracy." It is a time when all that is best in our manhood, in our patriotism, in love of our fellow man, should be called forth in us. You men, turn away from the lust of the flesh, and let your lives be inspired with the loftiest sentiments of duty to patriotism, duty to country, duty to yourselves, for, in my humble opinion, we are called upon to do the most heroic deed of history in bringing about peace to this warring world.

THE CLERGYMAN AND THE PHYSICIAN —SOME THOUGHTS ON REVEALED AND NATURAL RELIGION.

By George R. West, M. D.,
Chattanooga.

It is related that a college youth once approached Nathaniel Hawthorne, and, offering the celebrated novelist a manuscript, remarked "Mr. Hawthorne, please pass judgment on this essay; it's a story of human nature." The author of "The Scarlet Letter" read and re-read the youthful effusion, and offered, among other thoughts, this guiding criticism: "Begin at once, know where to end, have one great leading thought that you need energetically drive from one extreme to the other. If you have the ability, introduce here and there the unexpected."

The advice thus suggested seems quite as adaptable to the speaker as to the writer, and I venture, therefore, to announce that it is a privilege and a pleasure to address this meeting upon the subject of "The Clergyman and the Physician;" the revealed and natural religion; and, perhaps at the very outset, I may say a few significant words, I believe, on a subject that may at first blush seem foreign to the matter under review, but which for some misconceived reasons has led to bitter controversies almost since time immemorial.

And as to the clergyman—what a blessed and sacred work is his! The disseminator of charity and truth, the expositor and faithful guardian of that sacred book, which has been handed down to us from ancient times and hallowed by the veneration of ages as a repository of God's revelation; for it is the Book which contains the truths most interesting to man, prescribing his code of duties, the rules for his conduct through life; which defines those principles on which human happiness depends and without which civil society would be impossible; such a book must necessarily form, at all times, a subject of anxious study and investigation. For, as Daniel Webster has so eloquently pleaded: "Political eminence and professional fame fade away and die with all things earthly, * * * a conscience void of offense toward God and man is an inheritance for eternity. * * * A man with no sense of religious duty is he whom the Scriptures describe in such terse but terrific language, as 'living without God in the world.' Such a man is out of his proper being and away—far, far away—from the purposes of his Creator."

And it is just here—here, in the midst of these consecrated thoughts that I would, as Hawthorne told the college youth, introduce the unexpected. There is a prevailing opinion, not at all confined to theologians, that the great world of science and its millions of devotees not only reject the Bible, but actually deny the existence of a God. We are told that science has robbed us of a heaven up among the stars: that it has unroofed the imposing temple under whose dome of spangled azure David sang and the whole procession of primitive saints reverently trod; and that it has taken us down to the ancient sheol, and lo! instead of souls there is nothing there but seething chemicals and centres of gravitational and magnetic attraction.

Such extravagant statements are made, but they are not defended. The world of science is not removed from God, from the Bible or from the church. Indeed, science is proving the text of Holy Writ. The purpose of science is to explore the material universe and learn the beautiful laws of order and harmony, and to peer into the hidden things of physical nature and with its inventions contribute to the happiness of man.

Its deductions are only the latest interpretation of the order of the world, at which man's mind has arrived, and not the final. There can be no true conflict between science and the Bible, between nature and the Scriptures, the two Books of the Great Author. Both are revelations made by Him to man; the earlier pronouncing the grand harmonies coming up from the deep past and rising to their height upon man's advent into the world; the other teaching man's relation to his Maker, and speaking in inspiring harmonies in the eternal future. No; the scientific world has not rejected revealed religion! When Newton, with his subtle aid of a glass prism, resolved the beams of the sun's rays into seven colors on the palette of nature; when he discovered the law of gravitation and mathematically seized the very structure of the starry archipelago, did he deny the existence of a God and question the inspiration of the Scriptures? In 1664, as found in his "Waste Book," he was so impressed with the wonders of the physical world that he seriously thought of studying theology and entering the ministry.

Agassiz has published a work in which he reconciles the story of the creation and the story of geology. Huxley and Tyndall, those apostles of doubt and despair, men who have been much misunderstood and denounced, cannot understand, much less explain, the forces in the physical world, for, as they say: "The scientific mind can find no repose in mere registration of sequence in nature. The further question intrudes itself with resistless might: Whence comes sequence? What is it that binds the consequent with the antecedents in nature? The truly scientific mind cannot attain rest because it cannot reach the forces by which the observed succession is produced." If Huxley's views are so destructive to the Christian religion, how are we to account for this thought expressed by him in the Contemporary Review, in 1882: "The Bible is an open secret that man cannot penetrate. It is the light and the Magna Charta of the poor and of the oppressed, and I do not believe that the human race is yet, and in all probability never will be in a position to dispense with it." Even that wise and righteous man, the late Canon Farrar, Dean of Canterbury, in his illuminating work, "The Bible: Its Meaning and Supremacy," ventures the opinion that the story of the tower of Babel had been placed there by sacred pens to point a moral by means of allegory, but several years ago the French Institute sent out explorers on missions of archaeological excavations, which resulted in unearthing the Biblical tower of Babel, and the London Times, of April, 1913, not only asserts that this discovery was accepted the world over, but that Revelations is emphatically proved by science in the discovery of excavations in Egypt of a papyrus volume containing the greater part of Deuteronomy, the whole of Jonah, and nearly all the Acts of the Apostles inscribed in 109 leaves, six by eleven inches in size. But astronomers and geologists, too, have awakened to a new realization. Heretofore, it was taught that after millions of years the sun would cool off and earthly creatures would cease to exist. But Madame Currie, around the year 1900, discovered a new substance in naturely—namely, "radium," which possesses the paradoxical property of throwing off energy and yet not apparently suffering any loss of energy. Radium has been shown to be a prominent constituent of the solar body, and the view now generally obtains that the heat of the sun, which is reinforced in an atmosphere of red-hot hydrozen, may never lose its heat intensity.

And all of these opinions and facts just deduced show the finiteness of the human mind and the infinity of God. The attempt of the more superficial to detach man from the Bible has been unavailing. It is the great work that connects man to his Creator and holds him to His throne. How precious, then, the labors, the sacred guardianship, entrusted to mortals here below, to act as the teachers, the interpreters, the guides in this hallowed sphere! There is something glorious in the life of the sincere clergyman, the exponent of revealed religion. It is he, indeed, who can bring comfort, solace and inspiration. The genius of his preaching is truth in personality, the nature and function of preaching grown out of the divine method of education. His office requires great education; for his illustrations he must draw from the science of the stars, from stones, from animals and plants! The ministry emphasizes the great positive moralities; it handles the most powerful arguments the world has ever known—eternal truths. It plies men with divine inspiration. It deals with the greatest themes that life holds—God, conscience, reason, sin, salvation, culture, character, duty and immortal destiny.

For the sacred fulfillment of this heavenly mission, the clergyman needs be imbued with the sacred nature of his blessed work, and has made this his personal consecration. He needs pulpit power, not necessarily the oratory of the forum, but true eloquence; for eloquence is the language of the soul, the transference of thought and emotion from one heart to another, and combines individuality and sympathy. What great tact is required of those filling the pulpit in dealing with all the strange foibles and natures implanted in the human heart!

The minister of the gospel needs be tender of heart, infinite in charity, and absolutely consistent in life. A man who has these qualities is a man whom God has made, and wherever they exist they make the world better. What diviner infusion could be uttered than the tender passion of the poet, Cowper, when melancholy, sick in heart and spirit, than:

"Would I describe a preacher such as Paul,
Were he on earth, would hear, approve and own,
Paul should himself direct me. I would trace
His master-strokes and draw from his design.
I would express him, simple, grave, sincere;
In doctrine uncorrupt, in language plain.
And plain in manner; decent, solemn, chaste
And natural in gesture; much impress'd
Himself, as conscious of his awful charge,
And anxious, mainly, that the flock he feeds
May feel it too; affectionate in look
And tender in address, as well becomes
A messenger of grace to guilty men."

To make men better, to make their lives happier, to teach the sacred word of God, is a consecrated labor and a noble sacrifice. And how supremely human and beautiful are the words of John Ruskin: "Precious indeed these thirty minutes by which the teacher tries to get at the separate hearts of a thousand men, to convince them of all their weaknesses, to shame them for all their sins; to warn them of all their dangers, to try by this way and that to stir the hard fastenings of the doors where the Master Himself has stood and knocked, yet none opened; and to call at the openings of those dark streets where Wisdom herself hath stretched forth her hands and no man regarded. Thirty minutes to raise the dead in!"

And again, the exponent of natural religion, the co-laborer and brother of the clergyman, is the physician, of whom Tennyson said, "His work was made on earth and blessed in heaven," and indeed, one of the finest illustrations of lofty manhood in the world in the way of great usefulness in the prosecution of sanctified work is a godly physician skilled in his profession. We measure his value to humanity, with his charity and good will, as having a spiritual and a business side, and when in a happy combination we perceive an ideal man. As observed by Dr. S. Wier Mitchell, a physician is not a self-propelling intellectual machine, but a man of many parts, and requiring for the successful prosecution of his profession many strong and beautiful qualities. The doctor needs be a sympathetic person, kindly disposed, charitable and tender-hearted. He is with us when we come into the world and when we leave it. He is asked by the poor to ease their pains, and minister to their sufferings, and if he be the true physician, he alleviates their ills, though they be penniless; and how often does he provide them with sustenance and procure for them medicine and the necessities of life! Is this not indeed a blessed imitation of the lowly Nazarene?

The physician is bound by a code of moral law, to which on the whole he has held without question, while creeds of more serious nature were shifting and changing. He must guard the secrets wrung from his patients on the rack of distress. He thus and, often unwillingly, acts as a "father confessor."

Honor you need not ask of him, for you must feel free to speak. As was just intimated, charity is expected of him, for the heart is open to him, and knowledge, large knowledge, is the food which nourishes charity in the tender-hearted. At the most critical periods the doctor often hears the religious professions of many a soul who had always been regarded as hardened against religion and the Bible. As Andrew Jackson's spirit was about to depart, between failing gasps he said to his family physician: "That Book, sir," referring to the Bible, "is the rock on which this republic rests." And the stony-hearted Napoleon the First, who in all his military glory was wont to say: "Men can believe in anything but the Bible;" but, when ill in exile, his indomitable pride failed, and he remarked remorsefully to his doctor: "Doctor, you save life; I've destroyed it. We have conquered the world and changed the map of Europe with the sword; but Jesus changed the hearts of men and conquered the world with love."

How closely interwoven are the labors of the pastor and of the doctor! The necessary qualities for true success in the one find almost the exact counterpart in the other. Sympathy, charity, personality, honesty, helpfulness, hopefulness and morality are graven on their escutcheons. And besides the spiritual, the clergyman exercises great temporal powers. I have just spoken of moral- and whose subsequent marriages have cast upon the community unnumbered imbeciles. ity, and it is here where the ministry can do a blessed service. I need hardly refer to the Seventh Commandment, when I tell you that this and kindred sins have destroyed the individual, broken the home and thrown upon the mercy and bounty of the state millions of sufferers who seem to have lost everything and every hope, save their miserable bodies, those of vicious habits, the blind, the deaf and the sadly deformed. The schools of workshops, colleges and factories, the army and navy, are being exhorted by ministers and physicians, by the animated picture and by the microscope of the consequences of depravity, because the state at last recognizes the grave danger to the whole social fabric. In family affairs the physician, as well as the clergyman, is often asked advice as to the advisability of the marriage of those constitutionally diseased, as with tuberculosis. Here his suggestions may form the priceless jewel in the diadem. He, and often with the concurrence of the clergyman, may indefinitely ward off a marriage that dangerously menaces future progeny. Again, these two advisors are often consulted and succeed in bringing concord out of discord, restoring the love between husband and wife, brothers and sisters, and in cementing once more that love and affection that of yore burned with an ardent flame, but which is threatened with dissolution of the stern decrees of the courts of justice. Have not clergy and the medical profession stood shoulder to shoulder in demanding better legislation, better hygienic laws, and all that conserves the public weal?

May we, the exponents of revealed and natural religion, aspire to still higher and nobler deeds! May we urge ourselves on with better grace to ever glorify the benevolent thought, the "brotherhood of man and the Fatherhood of God!" Let us, as Emerson so eloquently pleads, "hitch our wagon to a star," and may that ever be, even through trial and tribulation, the Star of Bethlehem!

STATISTICS OF THE EPIDEMIC OF INFLUENZA IN NEW YORK CITY.

By William H. Guilfoy, M. D.,
Registrar of Records.
New York.

Previous Epidemics.

The first appearance, in recent years, of influenza in this city was in the last week of December, 1889, and the disease was in evidence for seven weeks during the beginning of the year 1890. The rise, culmination, and decline occupied a period of time measured by seven weeks. It reached its highest point in the second week, and in seven weeks was practically over. The second epidemic, which occurred in the week of March 26, 1891, was much slower in its rise, the culminating point not being reached until the fifth week, and its decline was much more protracted—the epidemic not having spent itself until at least eight weeks after the culminating point.

The first epidemic of 1890 had its effect directly on the respiratory diseases and tuberculosis, all other causes being very little affected by the prevailing infection. The epidemic of 1891, on the other hand, affected not only the respiratory causes of death, but also the mortality from other causes increasing them to a considerable extent. Since the epidemics of 1890 and 1891, influenza became endemic in this city; not a year passed up to the present year in which there were not from 100 to 500 deaths reported yearly from influenza, but at no time was the toll taken by this disease at all equal to that exacted during the present epidemic, 10,886 deaths being reported from influenza during the period from September 15 to November 16, inclusive. In addition to this excessive mortality there were reported 9,722 deaths from both pneumonias during the same period.

Survival Immunity.

Newsholme, the great English authority on vital statistics, in a recent publication, gives his opinion as follows:

"If one attack conferred a considerable immunity against repeated attacks, influenza would become much less prevalent; but, unfortunately, this is not so, and the difficulty of prevention is correspondingly increased."

This view of influenza immunity, it might be argued, is substantiated by the fact that, notwithstanding the consecutive local manifestations of this diseases in the city during the past twenty-eight years, the present epidemic in its intensity and virulence surpassed all previous lists of mortality resulting from this cause.

Age Groups Affected.

If we consider the influenza death rates, as based on deaths reported from influenza, with or without pneumonia as a contributory cause, and compare those of the epidemic of 1891 with those of 1918, we find that every age group up to 55 shows an increased mortality, varying from twice to fifteen times as great at the eight age groups preceding that of 55 to 65. In this latter age group, the mortality was sixteen in 1891 and fifteen during the present epidemic. When we come to the age group 65 and over, we find that in 1891 the rate was sixty-seven per one thousand living at those ages, as against eighteen during the present epidemic—more than three and one-half times as great. The possibility arises that during the two previous pandemics of influenza in 1890 and 1891 an immunity was conferred upon individuals at that time who were 28 years of age and over, the disease affecting persons at and above that age much more than those at the lower age groups. Otherwise, I cannot advance any satisfactory explanation of this comparative decrease in the mortality from this cause among the aged.

The outstanding feature of the present epidemic as to the mortality of the various age groups is the extremely high mortality at all age groups under 45 years. It is very evident that the age groups under fifteen years of age suffered very little from the infection and that the question of the closing of the public schools, which was agitated for a time, could be answered in the negative by reason of the low mortality, especially among the age group 5 to 15 years, those years comprising the ages of the children attending the public schools. It is also noteworthy that from the ages 15 to 45 suffered greatest from the epidemic, 67 per cent of all deaths from pneumonia and influenza having occurred at these two age groups. Again, the percentage of deaths from 45 to 65, and 65 and over, are below the normal and the experience of the epidemic of 1891. The first death reported from influenza was that of a male aged 32 on September 15. The age groups first affected by the epidemic, which occurred during the first two weeks, represented the ages from 21 to 35. Later the age group next affected to a measurable extent was that between 15 and 20 years of age and between 35 and 45 years of age. The next age group affected was between 45 and 65 and immediately following, those under fifteen years of age. The age groups 65 years and over was the last to be affected, and then only very slightly. The greatest number of deaths reported from both causes was at the 28th year of life, there having been 1,013 reported at this age; the next individual age was 29, with 817 deaths reported; 30 years, with 816 deaths; 27 years, with 906 deaths; 26 years, with 780 deaths; 25 years, with 730 deaths; 24 years, with 690 deaths; 23 years, with 571 deaths; 31 years, with 540 deaths; and 22 years, with 530 deaths. From 21 to 31, there were 3,530 deaths reported among males, which gave a yearly death rate of 41.5 per 1,000 living at this age group.

Standpoint of Sex.

From the beginning of the epidemic on September 15 until the 11th of October, the males were considerably more affected than the females. From the 12th of October the number of deaths of females was in excess of the males, and continued so, until the culminating point of the epidemic on October 19 and thereafter up to the 1st of November before the disparity between the sexes was equalized from this date on. The mortality among the sexes was approximately the same. It was to be expected that the age groups affected by the selective and volunteer service from 18 to 40 would show a diminished mortality among the males, as against the females. This was entirely true on the age group of 18 years up to 30 years of age. At 31 years of age males were in excess, and at all the succeeding age groups considerably in excess up to the 55th year of life. At the age group from 55 to 65 the numbers were approximately equal. At 65 years of age and over, by reason of the larger number of surviving females in the community at this age group, there were 210 deaths among males, as against 292 among females.

Rise, Culmination, and Decline of the Epidemic.

Taking both causes together, the number of deaths reported on September 15 was 12. The daily number of deaths increased from this date to 18, 26, 24, 13, 16 and then in a gradual ascending scale day by day, with few exceptions, up to the 20th day of October, upon which day 809 deaths actually occurred. There was practically only one break in the rapidly ascending curve in the actual daily deaths from influenza, the number of deaths reported from this cause reaching its height on October 20, when 457 deaths were reported. That same day there were 352 deaths reported from pneumonia, which was the highest daily mortality from pneumonia during the epidemic. From October 20, the actual daily mortality descended gradually with few interruptions, until the date of the compilation, November 26, when 50 deaths were reported from the two causes combined. The highest week of mortality was that of the fifth week, in which 5,260 deaths were reported, as compared with approximately 2,000 deaths in the fifth week of the epidemic of 1891, and 2,180 deaths in the second week of the epidemic of 1890, the two last figures being corrected to correspond with the increase in population. At the present writing, it seems as if the mortality from these two causes will be lower after the tenth week of the epidemic than that of the previous pan- and endemic appearances of this disease.

Effect of Marital Condition.

At the age group 15 to 24, single males showed a considerably higher death rate than the single females. On the other hand, the married males showed a much lower death rate (26) than the married females (41) per 1,000; 25 to 45 the single males showed a much higher death rate (31) than the single females (21); married males a rate of 29, as against 33 among the married females;

widowed males showed a rate at this age group of 36, as against widowed females, 23. Undoubtedly the increase in the number of deaths among pregnant females caused this reversal of excess mortality of the single and married males and females under normal conditions. At 45 years of age and over, the single males was higher than the widowed and the married males.

Comparative Mortality of Six Largest Cities. The culminating week was taken in each instance and the rates calculated for the three preceding and the three succeeding weeks, with the result that Philadelphia showed a rate of 138 at its culminating week; Baltimore, 119; Boston, 84; Buffalo, 80; Newark, 54, and New York, 48. The curves of ascent and descent were substantially the same as regards the angle of inclination. The combined rates for these six cities for the seven weeks covered was 53 for Philadelphia; 47 for Baltimore; 40 for Boston; 33 for Buffalo; 32 for Newark, and 27 for New York. Evidently the epidemic played much less havoc among the populations of the middle western cities, Cleveland being the same as that of New York as regards the combined rate for seven weeks, Chicago being slightly lower. The other cities of St. Paul, Cincinnati, St. Louis and Minnesota were much lower than the other cities compared.

Non-Resident Deaths.

The number of non-resident deaths during the epidemic of pneumonia increased considerably above the normal. From September 14 to November 16, 1918, there were 945 deaths recorded, of which 759 were males and 186 females, due entirely to influenza and pneumonia. Ordinarily we have in the course of a year about 1,200 deaths of non-residents in the city from all causes. Many of these deaths are among persons who come to New York for surgical and medical treatment. There were twenty-three deaths of children under 5 years of age; four between 5 and 10 years, and two between 10 and 15 years. The next age group, though, 15 to 20 years, showed eighty-nine deaths from these two causes. It is worthy of note that the ages at which the most deaths occurred among non-residents were those between 20 and 30 years of age, the highest number recorded at any individual year being at the 24th year of life, at which 70 deaths were recorded as a result of the epidemic. The total number of deaths of non-residents between 21 and 31 years of age were 612; between 35 and 45 years of age there were 96 deaths reported; at 45 years of age and over, 52 deaths reported. Of these 945 deaths, 285 were among soldiers in the United States Army and 121 sailors in the United States Navy. There were also reported 19 deaths of female nurses who came to the city to aid in combating the epidemic. Thirteen deaths occurred among visiting merchants, and 23 among laborers who were non-residents.

Among Pregnant Women.

There were 10,400 deaths of females from influenza and pneumonia reported during the recent epidemic, 5,555 being reported from influenza and 4,835 from both forms of pneumonia. Out of this total number of deaths reported among females from these two causes, upon 151 certificates of death abortion was given as a contributory cause. Puerperal eclampsia was given upon 34 certificates, one from puerperal septicemia, and 16 mentioned childbirth as a complication, so that all told 202 deaths were reported with childbirth as contributory causes on the certificates of death, and which gave as the primary cause influenza or pneumonia. Curiously enough, the number of deaths reported from puerperal causes without any qualification as to the existence of either influenza or pneumonia during the ten weeks of the epidemic from September 21 to November 30 was normal, there having been in that period 112 deaths reported from puerperal diseases, as against 107 deaths in the same period of 1917, at which latter time there was no epidemic prevailing. Unfortunately, we have no figures showing the effect of influenza and pneumonia in producing premature delivery during previous epidemics, but undoubtedly the figures above quoted are considerably above what has happened during other epidemics of this disease. Corroboration of this statement is to be had considering the number of deaths from congenital causes among infants during the epidemic. A review of the figures show that there were during the ten weeks in which the epidemic prevailed, 289 more deaths among infants from prematurity, atalectasis and malformations than in the corresponding period of 1917. It is also in evidence that the infection did not begin to show itself until the fourth week of the epidemic, in which there was an immediate and distinct increase from below normal during the preceding three weeks among the congenital causes. The culminating week of the epidemic, that of October 26, showed 200 deaths from congenital diseases, as against 103 in 1917. From this week on there was an increase above normal during the succeeding weeks, so that we might add as a conclusion that there were almost 500 deaths of pregnant women and prematurely born infants due entirely to the effects of the epidemic.

Among Colored Races.

There were 19,899 deaths from influenza and the pneumonias among white persons; 604 deaths among Negroes; 61 deaths among Chinese; 39 deaths among Japanese, and 5 deaths among Indians. The difficulty of obtaining any accurate idea of the populations, especially among the colored persons, precluded the making of death rates thereon. The latest returns that we have of the number of Negroes, Chinese and Japanese in the community were those of the census of 1910 and by reason of the large influx, especially of the Negro, into the city since the year 1914, it was deemed inadvisable to try and construct any racial rates.

In Congested Parts of City.

Seven districts were taken as extreme examples of congested and non-congested areas. District number one, with a population of 102,000 and an average of sixty persons per dwelling, gave a death rate per 10,000 of 16, representing 280 deaths during the ten weeks of the epidemis; this district is inhabited almost exclusively by Russian, Austro-Hungarian and Polish Jews. In the second district, the number of deaths was 214, giving a rate of 14 per 10,000, similar to the first in race and nativity composition, with an average of sixty persons per dwelling, and population of 131,000. In the third district there were 226 deaths, giving a rate of 18 per 10,000, the population therein being 75,000, with an average of fifty persons per dwelling; this district was almost exclusively Italian. The fourth district, with a population of 84,000 and an average of 47 persons per dwelling, had 350 deaths, which gave a rate of 24 per 10,000; nationality was also entirely Italian. The fifth district, composed of various nationalities, Americans, Germans and Irish predominating, with an average of thirty persons per dwelling, furnished 241 deaths and a rate of 22 per 10,000. The sixth district, with a population of 45,000 and an average of sixteen persons per dwelling, all living under ideal sanitary conditions in private houses or high-class apartments, furnished 134 deaths and a rate of 17 per 10,000. The seventh district, with a population of 34,000 and an average of fourteen persons per dwelling, high-class neighborhood, nearly all private houses, furnished 86 deaths and a rate of 15 per 10,000 population. I have serious doubts about the comparability of these rates, as it was impossible to obtain the age distribution in the various districts. The epidemic, as we know, affected the younger members of the community, especially those between fifteen and forty-five years of age, and it is extremely likely that the proportion of persons living at those ages was much higher in the congested districts than in the two non-congested ones. Other things being equal, it would be natural to suppose that the death rates in the congested districts would be much higher than in the high-class districts. Again, it is our experience that the death rate among the Russian and Austro-Hungarian Jews in this city is lower and has been lower, if not always, at least for many years, than among the other nationalities in the city. The death rate in the Italian quarters is always higher than in the Jewish quarters. If I were pressed to give an opinion in the matter I would say that from these figures the congestion of the population plays only a minor part in the conveyance of infection.

The largest number of deaths reported among any of the various occupational groups was that of laborers, with 1,106 deaths; office clerks, 728; chauffeurs and drivers, 426;

porters and janitors, 415; soldiers, 406; merchants, 347; tailors, 302; employees of department stores, 231; clothing operators, 189; carpenters, 167; painters, 160; hotel help, 152; teachers, 105; bartenders, 105; electricians, 101; policemen, 76; shoemakers, 66; barbers, 56; physicians, 59; trained nurses, 59; longshoremen, 58; butchers, 49; firemen, 32; lawyers, 23; undertakers, 6.

Death rates based upon the numbers engaged in occupations are notoriously misleading, unless we have as a working basis the division of the different occupations into age groups, which information has been impossible to obtain. Our tables show the mortality among occupational groups at the various ages of decedents; however, the following rates have been calculated, based on the approximate numbers engaged in occupations, and, while the comparative mortality amongst the various callings might lead into error, still the rates below are given as showing exposure to the infection and mortality as a whole in each occupation. The rates are based on each one thousand persons engaged in the various occupations during the period of the epidemic. The highest rate was among electricians 25, butchers 22, plumbers 17, machinists and painters 12 each, policemen 7, teachers 7, physicians 6, carpenters 6, furriers 5, firemen 6, street cleaners 4 and letter-carriers 3. Rates in other occupations cannot be estimated, as the numbers engaged therein were not obtainable.

From a cursory perusal of the rates it seems that the highest rates were among persons engaged in indoor employment, such as electricians, putchers, plumbers, painters and machinists, with the exception of teachers, among whom the mortality was quite low, seven per thousand. The rates per 1,000 among civil employees were: Policemen 7, firemen 6, street cleaners 4, and letter-carriers 3. The exponents of infection from the dust, etc., as found in the streets, are called upon to explain the low rate prevalent among street cleaners. However, these rates are onl yapproximately accurate, and should be used cautiously. It shows the necessity of improvement in methods of ascertaining mortality rates by occupations.—In Monthly Bulletin of Department of Health of New York City.

CLINICAL NOTES ON THE INFLUENZA EPIDEMIC.

By W. L. Somerset, M. D.,
Chief Diagnostician.
New York.

Sporadic cases of influenza occur everywhere, every year, at all seasons of the year. They receive no particular attention and require none. The number of cases does not increase from month to month, and a great majority of the patients are slightly ill and for a few days only. Then suddenly, without warning, anywhere, any year, any season, the dseases bursts all bounds, defies all restrictions, becomes, in a word, epidemic, pandemic.

Authentic accounts of the courts of this disease are available as far back as 1500 A. D. Since that date there have been about ninety epidemics. Some mild in character, others severe; some local, others world-wide—flowing over the earth as irresistible as the tides. Sometimes one epidemic follows another in a year or two; again, the disease is quiescent for a score of years, or longer.

It may improve our sense of proportion if we go back a generation or two and see what our forebears said about this disease. Dr. G. Wood, in his practice of medicine published in 1858, speaking of influenza, says: "Its spread is usually so rapid that it frequently appears throughout vast extents of territory simultaneously. Oceans oppose no obstacle to its course. It has leaped from Europe to North America; has been observed in solitary islands, in the midst of the ocean, and has attacked the crews of ships far out of reach of any communication from the land. It has sometimes made a circuit of the whole globe. Some persons are much less susceptible than others, and some appear to be wholly insusceptible. There is no obvous cause for this discrepancy, as all ages, both sexes and every variety of temperament and occupation are equally liable to an attack."

Delafield, in 1890, quoting Ziemsen, says: "Wherever the epidemics prevail, large numbers of the population are attacked. There is no special liability or immunity by reason of age, sex, constitution, or condition of life; but in some epidemics children are exempt. Climate and atmospheric influence seem to exert no effect. One attack of the disease does not protect against subsequent attacks.''

While unable to vertify the nature of the illness of the crews of above isolated ships, it certainly is a fact that in the most rural parts of New Jersey, New York and New England, during the present epidemic, fully as large a proportion of the inhabitants have influenza as in the most crowded cities.

At the time Dr. Wood wrote his very interesting account, the nearest he could get to etiology was ''morbid influence.'' We admit the influence, but assign some germ or germs to the leading role. Bacillus influenza alone, or aided and abetted by other bacilli or cocci, must bear the blame. Judging by the polyvalent or shotgun biological products recommended for prevention or cure or both, our ideas are not vastly more definite than were those of Dr. Wood.

That the disease is, in the main, transmitted from the sick to the well by discharges from the mouth and nose admits of no doubt whatever. But much may also be said in support of the view that anybody may carry about the necessary infective agent or agents for any length of time without any sign of illness and consequently may, under changed conditions, come down with the disease without, at the time, having caught anythng from anybody.

What are these changed conditions? Why do epidemics occur? Exposure, fatigue, overcrowding, poor sanitary conditions, wealth of susceptible material favor them. But none of these things is fundamental. The real cause, I am afraid, we must admit to be some vagary of plant life beyond our ken up to the present time. In these modern days, we are not permitted to invoke sun spots or world girdling volcanic dust.

It is reasonable to assume that influenza patients transmit the infection during their illness. Probably, in many instances, for a much longer time, when they continue to carry the contagioum after their recovery.

The flora of the respiratory tracts of influenza patients comprises many forms of germ life and it is by no means identical in different patients. The bacteriology of the epidemic is extensively detailed in the accompanying article by Dr. Williams.

Many susceptbles have fever and other symptoms within two or three days after a known exposure. Not counting a possible period of surface invasion of unknown duration, the incubation is invariably within a week.

The symptoms of influenza are protean in variety; show any degree of mildness or of severity; differ in duration from a few days to weeks or months. There are many cases in which there is ample room for a difference of opinion. In this epidemic, however, as in preceding ones, certain symptoms and sets of symptoms recur with sufficient regularity and frequency to justify their use as a basis of classification of influenza cases. We must bear in mind that any case may present symptoms placing it in two or more groups at the same time, and furthermore, that a case may pass during the course of the disease from one group to another. The catarrhal symptoms during the present epidemic are more prominent and occur in a larger proportion of cases than in the epidemic of 1889-90.

We find case groups showing:

I. Rise of temperature with its accompanying chills, malaise, and headache and no other symptoms. These cases are usually mild and of short duration. Exceptionally the fever persists for two or three weeks. They remind one of the diagnoses of ague or of sewer fever of days gone by, when effluvia of night air and bad smells were believed to be factors in producing disease.

II. Rise of temperature, with pain. This pain is referred to the limbs, the back, the thorax. It may be very severe. Its usual duration is one week, exceptionally two or three weeks. When severe and protracted, it may result in depression with suicidal intent.

III. Rise of temperature with physical and mental depression. These cases with prostration developed out of all proportion to the fever are not nearly so numerous now as in 1889 and 1890. At that time the intense and protracted prostration led to hysteria, melancholia, and insanity, with suicidal intent.

IV. Rise of temperature with catarrhal inflammation of eyes, nose, pharynx, tonsils or larynx. The great majority of the cases in this epidemic belong here. These catarrhal inflammations may and usually do go on to recovery within a week. They may be protracted. The larygnitis may produce hoarseness persisting for weeks. They may be complicated by pus invasion of sinuses.

V. Rise of temperature with bronchitis. This bronchitis may be with or without the conditions found in class four. It may come on early or late; may be general or strictly localized in one lung or in one lobe. The expectoration is usually profuse and may be blood-stained. It may invade the medium and smaller bronchi, producing venous congestion and cyanosis.

VI. Pneumonia.

The lung involvement is more frequently lobular than lobar.

Extension of the process from the original lesion is frequent, irregular and rapid.

A pronounced bronchitis is often present, with copious purulent or blood-stained sputum.

There is severe congestion—resulting in hemorrhage from nose or bronchi.

Severe pain is common, often along the sternum.

Streptococci are present in both lungs and the blood. The influenza bacillus is present in the lungs in a large proportion of cases.

There is little or no abscess formation in the smaller bronchi.

VII. Acute catarrhal gastritis or colitis. These cases are characterized by vomiting or abdominal pain. These symptoms may be very severe, persistent and difficult to treat.

VIII. Erythemas. Many cases of influenza develop rashes. These rashes may be general or localized, uniform or morbilliform. Their location or duration usually renders them easily distinguishable from the rashes of scarlet fever, measles, or French measles. They bear no relation to the severity of the case. Cases wth diffuse erythemas and intense pain look and act like cases of dengue.

IX. Patents from any of the above groups—usually, however, from group V or VI—may develop paresis or paralysis of either cerebral or spinal origin. Motores oculi, facial nerves, motor branches of pneumogastric to heart or lungs, nerves from spinal plexus to extremities are affected. This impairment of motion may be severe or mild, permanent or temporary.

With the knowledge we possess of the nature, course, and spread of this disease, past and present, it is and should be obligatory on everyone to carry out fully every precaution which, within reason, gives promise of being helpful. In any disturbance where the welfare of such a large proportion of the population is involved as in an epidemic of influenza the carrying out of precautions must, of necessity, devolve principally upon the public. It is, therefore, of first importance that no preventive or remedial measures be recommended, the efficiency of which is, perhaps, more than doubtful. Intelligent and well directed effort for the welfare of those afflicted cannot possibly be overdone. On the other hand, is there any probability that closing schools—in New York City, at any rate—would lessen the intimacy of contact between children?—Bulletin of Department of Health of New York City.

SCIENTIFIC MEDICINE: WHAT IT IS, AND WHAT IT IS NOT.*

By Edwin Linton, Ph. D.
Professor of Biology, Washington and Jefferson College, Washington.

While this paper is prepared for an audience of medical doctors, the writer has in mind a larger audience whose attention he would direct to a question which concerns the general public, and concerns the general public in a very vital manner. What sort of training should society require of those to whom it grants the right to practice medicine? At the outset I must be allowed to remark that an adequate discussion of this rather ambitious theme calls for the rich and full equipment which is secured only by one who has spent many years in gaining knowledge at first hand in the practice of the science and art of healing the sick.

And yet there is some fitness, too, in the discussion of this theme by a layman, provided that layman can justify himself for undertaking such discussion. My justification for such course, I hope, may be granted when it is understood that for a long series of years, in addition to the fundamental biologic subjects of general biology, zoology and botany, I have endeavored to conduct courses in mammalian anatomy, histology and embryology, with the idea of training young men for the study of medicine uppermost in mind.

---

*The Pennsylvania Medical Journal for January, 1919.

The material with which I worked was of the best—so fine, in fact, was it, that I look back on those years with feelings of profound gratitude that I have had the rare privilege of companionship with so select a lot of my fellows, but with, at the same time, a somewhat apprehensive look into the future when I contemplate facing the just judgment that somehow or other, and some time or other, every sane consciousness is convinced will be passed on his work.

Nor can I leave this phase of the subject without paying a merited tribute to the work of my scientific colaborers in the training of the young men of Washington and Jefferson College who had the study of medicine in view. The subjects of chemistry and physics offer much better opportunities for training in exactness of manipulation and accuracy in the mental processes involved in arriving at correct conclusions than are afforded by the subjects grouped, for convenience, under the head of biology. For the past ten or more years I have been meeting young men who have been trained in the laboratories presided over by Dr. H. E. Wells, professor of chemistry, and Dr. George Winchester, professor of physics, each a master workman in his profession as a teacher. The foundations laid by the premedical students in the chemical and physical laboratories were good to build on. Without them, the less well standardized biological courses lacked the essential element of mathematical exactness; with them, the student, already trained to give strict attention to details, lost no time in acquiring the necessary scientific habit of mind, and made undelayed progress from the start.

It is just as permissible to speak of the science of medicine as it is to speak of the science of geology. Indeed, a brief comparison between these two departments of knowledge will help to a proper understanding of the question which this paper attempts to discuss. The science of geology has to do primarily with the history of the earth and of the organic forms with which it is peopled. The record of this history is written in the rocks, and in the structure of animals and plants. This history is interpreted by causes which are still in action. Consequently it comes about that the geologist must avail himself of knowledge which chemists, physicists and biologists have wrung from nature and set in orderly array. Thus the geologist learns to see clearly and to reason correctly from the observation of real things. He no longer looks on impressions of shells in rocks, now far from the sea and at the tops of mountains, as playful freaks of the Creator, or tricks played by some dishonest advocate of the truthfulness of the story of the Noahachian deluge.

In like manner the scientific physician in the practice of the healing art makes use of knowledge which has been acquired in the laboratories of the chemist, the physicist, the anatomist and the physiologist. On these sciences the science of medicine rests, and in the laboratories of experimental physiology, more particularly, problems are continually being attacked, the solutions of which, from time to time, enrich the fund of acquired human knowledge, and also make frequent contributions to the science and practice of medicine.

Thus scientific medicine is ever on the alert to seize on and to appropriate new discoveries. It does not seem very long ago to the youngest of us here today when the discovery of radiant energy was first announced| The nonscientific world saw in the roentgen ray a new wonder, in the fluoroscope an amusing toy, and in radium a marvel. The scientific medical man saw in the roentgen ray a new and valuable aid to diagnosis, and in radium a possible addition to his armament in the battle against disease. Immediately experimentation began in the physiological laboratories with the roentgen rays, and contributions shortly made their appearance in the scientific journals, such, for example, as those now collected in Cannons' "Mechanical Factors of Digestion."

It is not so long ago, either, that about all that the students of a most excellent medical school ever heard about the ductless glands was the occasional turning up of a catch question on examination, such as, "Where does the duct from the spleen empty?" Tradition says that this question ceased to appear after a bright but disgusted student recorded this answer: "At the bifurcation of the rectum."

A few years after this story was told me by a former student, now an eminent surgeon, the ductless glands came to the fore. Experimental work on them resulted in most important contributions, which have proved of great medical value. But, it should be observed, no school of medical practice was built on this knowledge. Some of the, at present, much boosted "pathies" rest on less important physiologic foundations. It might be in order, therefore, to suggest that, when such vagaries as chiropathy and osteopathy have had their brief, fitful day, there is yet balm of healing for those who wish a medicineman instead of a physician, in adrenopathy, or parathyroidopathy, or, perchance, hypophysopathy.

One of the best illustrations of the development and methods of scientific medicine is to be found in the contributions to knowledge made by that admirable man of science, Louis Pasteur. Just now we are saluting the French nation, and its great political and military leaders which have risen in this world crisis. We honor them for their great achievements, and admire them because they impress us as being friends of all men of good will. So, in Pasteur we recognize, not only the great Frenchman, but the great man. Louis Pasteur was not himself a medical man, but a chemist. His first contributions to science were in the realm of crystallography. These contributions were so notable that one recognizes in them the products of a mind that saw deeper into the constitution of matter than any one had seen before. When, therefore, he was asked to take up a special problem in microbiology there was brought to the task the highly trained intellect of a veritable scientific seer. The results of his labors on a disease, which was seriously injuring the silkworm, were so startling as to mark the beginning of an epoch. The discovery of micro-organisms was already due, and doubtless would have been made by some one in the same decade in which the keen observation of Pasteur revealed them; but the world might have waited many decades before the theory of antitoxins could have been conceived and established, had it not been for the transcendent genius of Pasteur. Huxley, some forty years ago, said that the work of Pasteur had saved to industries alone, in France, more than the indemnity which had been exacted from France by Prussia. The values in human lives saved in the years which have followed and, especially in the past four years, due to knowledge of antiseptic treatment of wounds, of vaccination against enteric fevers, of sanitation in camp, hospital and home, all flowing from Pasteur's contributions to knowledge, immeasurably transcend the cost of the world war, staggering and unprecedented as that will be.

Pasteur's discoveries were so far in advance of his time that the scientific world—at least that part of the scientific world represented by the medical fraternity—did not at once estimate it at anything like its true value. The fact that he was a chemist, and not a doctor of medicine, delayed recognition by the medical men of his own country, then a more conservative body than they now are. It was the Scotch Quaker, Joseph Lister, who first saw the medical value of Pasteurs' discoveries, and antiseptic and aseptic surgery thus became the first fruits of the Pasteurean epoch in the history of medical science.

In all discussions of scientific matters it must be remembered that what we now speak of as the scientific method is of rather recent development. The scientific method in medicine, as in other departments of knowledge, has won its way but slowly to its present admirable eminence. This can be said without discrediting the labors of the great men of the past, who kept the torch of knowledge alight, here and there, in the dusk of a credulous and unscientific world. Science does not, as some ignorantly think, disbelieve all things. It does, however, endeavor to prove all things. Medical science in its own province cannot be said to be either credulous or incredulous; it simply must be convinced. Hence, there has grown up a great proving ground, which we may call animal experimentation. This is a great subject, and it would require many lectures to do it the justice which its importance demands. It is true that much can be learned, as much has been learned, by observation and experience in medical practice. Such knowledge, valuable as it is, and not by any means to be discounted, is too slow and costly. Knowledge is needed, for example, of the function of the parathyroid glands, knowledge, let us say, that is clearly attainable and, once attained, will result in the saving of many lives, both of man and beast. The knowledge may call for the sacrifice of a considerable number of guinea pigs, a lesser number of rabbits, a few cats, possibly a dog or two, and, it may be, a monkey. At once this suggestion arouses antagonism in a curious type of mind, which finds outlet for certain abnormal activities in forming anti-vivisection societies, and is ready to spend much time and money in influencing legislatures to enact laws which are calculated to hinder progress in that most beneficent of human activities, the science and art of healing. Such inhuman societies have done more michief in England than they have yet been able to effect in this country. This subject, while tempting and important, cannot be discussed further in this paper, and may be dismissed with the remark that no anti-vivisectionist should be given a hearing unless he is a consistent vegetarian. The experimental work which is carried on in institutions such as the Rockelefeller Institute for Medical Research in New York Citly, is of inestimable value to medical science and to the world. Here highly trained and competent men are engaged in experimental work which, together with similar investigations that are being carried on in the laboratories of all the better medical schools and universities of the country, is enriching medical science. Thus, year by year, experimental medicine is putting into the hands of the physician new and improved means of conquering disease, and of removing pain and suffering from the world.

Medical science, like any other department of research, arranges in order, and estimates at their true value, all facts which have any relation to its one great problem, the healing of the sick. It is, therefore, all embracing, and marches with the progress of human knowledge. This truth lies plain and clear to the eyes of all who have attained that habit of mind, often called scientific, but called so only by a figure of speech, where a part gives a name to the whole. That habit of mind has been acquired by any one who, as a matter of course, reasons correctly, who is just as careful in accepting his major premise as he is in the processes by which he reaches his conclusion.

Many years ago I had the rare privilege of being entertained at the home of the late Dr. Peter Parker, who had spent many years in surgical work in China. He gave many examples of Chinese reasoning in medical practice, which would illustrate some of the things which scientific medicine is not. Here is one of them: The tiger is one of the strongest of living things. The skeleton is the strongest part of the tiger's body. Therefore the virtue of strength will be imparted by medicine prepared from the bones of the tiger. Calcined tigers' bones, therefore, occupied a prominent place in the pharmacopeia of China, in the first half of the nineteenth century.

One may be tempted to smile at this reasoning of the Chinese of more than two generations ago. If, however, he happen to have one of our newspapers before him, his smile will disappear, as his eye catches the too frequent testimonials to the virtues of some mixture of onomatopoetic designation, warranted to cure anything that the amateur diagnostician decides is the matter with himself.

But I am more concerned at this point in my discussion in trying to show what scientific medicine is, rather than what it is not.

It is a much worn saying that the animal body is a very intricate machine. So intricate is it, in fact, and its workings so difficult of explanation, that we may well doubt whether, within the span of life of the human race, all will be explained which is within the comprehension of the human understanding. For example, chemical formulae, more or less satisfying, may be written for the various food stuffs, likewise much is known of the changes which are involved in the processes of digestion. Furthermore, a knowledge of the end products of vital processes is well in hand. But between the digested food and the carbon dioxid, water, and nitrogenous and other waste products which leave the body, there takes place a series of events, every one of which is doubtless explainable in terms of chemistry or physics, but which may never be understood in their entirety. No physiologic chemist ceases his resarches into the unknown because of the thought that there can be no hope of reaching ultimate truth. Rather he is spurred on to push back the boundaries of knowledge as far as he can, even to come comprehendable expression for the difference between living and not living tissue.

So it comes about that there are in a large number of laboratories, the world over, many workers in various departments of physics, in the many fields of chemical research, in biochemistry, in physiology, in experimental medicine. From these laboratories are coming a multitude of papers which give the results of all this activity in the interpretation of the visible universe, of which we are a part.

Scientific medicine gives sympathetic heed to every department of research that can in any way throw light on the workings of the human body, in health and in sickness. Now and then a great discovery is made which puts new weapons in the hands of the physician in his fight against disease, or leads to radical changes in the treatment of entire classes of ailments.

It is hard for us to understand how a rational system of medical practice could exist before Harvey demonstrated the truth concerning the circulation of the blood, or how blindly the best of medical minds groped before Priestly discovered oxygen. Neither does one have to be among the oldest inhabitants to recall how helpless preventive medicine was when epidemics of yellow fever, or bubonic plague, or even enteric fevers, were to be averted.

Briefly, then, we must understand by scientific medicine so much of that body of well-established and orderly-arranged truth which makes up the sum of human knowledge, as is found to be serviceable in curing the ills, or repairing the damages of living organisms, whether they be men or beasts, or lowlier creatures than either.

It follows, then, that society, for its own protection, must deny the right to practice medicine to those who have not had training in a legitimate medical school; to require the medical school to decline to admit to its courses any one who has not had such preparation as that represented by the standard of preliminary education, advocated by the American Medical Association, which includes laboratory training in biology, chemistry and physics.

Further, just as any one can see the absurdity of different sorts of systems of chemistry, or physics, or engineering, so the public, if it does not already understand, must be educated to a proper understanding of the fact that there can be no such thing as different schools of medicine. There are, of course, a great variety of methods of handling certain specific cases, but it must all be done by the practitioner in each instance using his best judgment as to the treatment which is demanded. Neither does scientific medicine discourage specialists. There is the same difference, however, between the specialist who treats only the eye, ear, and throat, and the man who would advertise to cure any and all dseases by treating the eyes, ears and throats of his patients, as exists between the legitimate general practitioner and the man who would build a general practice on the manipulation of the vertebrae of his patients, no matter how beneficent the latter treatment might conceivably be in certain specific cases.

What is of immediate concern is that the public be taught to understand that medical science is no different from other science in its essential nature. The public understands very well that the analysis of an ore must be referred to one who has learned his business in a chemical laboratory. It should understand, equally well, that the diagnosis of a disease should be intrusted only to the man who has had hospital training following graduation from a legitimate medical school.

Society may decide that it is better to have competent diagnosticians under salary, paid from the public treasury, than the present unorganized system. I am inclined to think that something of that sort must come. Thus, with the dread of consultation fees removed, self-diagnosis, under the tutelage of patent medicine circulars, would be largely done away with.

I do not think that such a plan would interfere in the least with the work of the legitimate specialist, or with that of the family physician, an institution which, like the family itself, must not be permitted to languish.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

FEBRUARY, 1919

EDITORIALS

OUR ANNUAL MEETING.

The eighty-sixth annual meeting of the Tennessee State Medical Association will be held at Nashville on April 8, 9, 10, 1919. Eighty-six years is a long time for any organization to hold together, and certainly there must be some very good reason for an organization that has withstood the storms of so long a period of time. The Tennessee State Medical Association has not only held together during all these eventful years, but it has made honorable history. From its ranks have come some of the most famous men of medicine produced in this great nation, and through its activities many hundreds of physicians have received benefits through which they have been enabled to serve the people of this State far better than they could have done without the helpful stimulation received by them from contact with their fellows in our honored old society. The Tennessee State Medical Association has always answered the call of the State and the call of the Nation. In the hour of peril through which our country has just passed, several hundred of our members rallied to the flag and gave themselves to the service that was demanded of them, wherever that service called them to go. Those who could not go in answer to that call have performed well the terribly exacting duties that devolved upon them at home. When the crisis came the Tennessee State Medical Association, through her members, met the crisis in a manner that has reflected further credit upon the organization.

The crisis is over in large part. There is yet work for our Association to do—work which must be done and which in the doing will keep us fit to meet the next crisis; and which, if not done, and done right, will cause a retrogression in the medical profession of this State. It is true that during the hard times of war and during the busy times of prevailing epidemic it has not been possible to maintain medical organization in the State as we should like to have had it maintained. But now that the stress is lessening, now that our fellows are coming back to us from their duty with our soldiers and sailors, now that a momentous period of reconstruction is beginning in which changes which will have lasting result upon the interests of our profession, and through it upon the interests of the people of our State and Nation, the time has come when the threads must be picked up and the weaving of an honorable history for our society must be resumed.

The meeting this year will be a home meeting. With one exception, every paper on the program will be the paper of a member of the Association. The men who have been gone will be back with us, most of them, and it is hoped that the three days of the meeting will be a season of pleasure and profit which will be long remembered.

Get ready now to go to Nashville for the whole three days—April 8, 9, 10.

PROPOSED LEGISLATION AFFECTING STATE BOARD OF HEALTH.

A bill has been drawn and, it is said, will be introduced in the two houses of the Legislature during the week of February 16, which proposes to abolish the present position of Secretary and Executive Officer of the State Board of Health and provides for a Commissioner of Health, to be appointed by the Governor.

This Commissioner of Health is to be empowered to perform the duties of the present Secretary and Executive Officer of the State Board of Health, and is to become a member of the State Board of Health. He shall be the administrative and executive head of the State Board of Health. He shall receive "no salary other than that now provided for said Secretary to said State Board of Health," and shall devote his entire time to the duties of his office.

The Commissioner of Health shall have the "further and additional powers conferred upon him to appoint in each county of the State a County Board of Health, to consist of three members, one of whom shall be the County Judge, or Chairman, the second member shall be the County Court Clerk, and the third member shall be a physician of standing and reputation in the county in which he is appointed to said board. Said appointment of a physician, as aforesaid, shall be for a term of four years. He may be removed by the Commissioner of Health for cause upon written charges against him by the other members of said County Board. . . . The compensation of any physician so appointed shall be paid by the County Court, upon proper warrant to the County Court by the Judge or Chairman and said County Court Clerk."

The State Commissioner of Health may be removed by the Governor, after a hearing; provided, that charges have been submitted against him, in writing, signed by a majority of the members of the State Board of Health; and provided, further, that the Governor find such charges to be true in fact, and their nature such that, in his opinion, the best interest of the State shall demand such removal.

Dr. Frank Griffin, member of the House, whose home is at Tiptonville, is the author of the proposed bill above referred to.

The editor of this Journal, who happens to be also the present Secretary and Executive Officer of the State Board of Health, has some hesitancy in discussing a measure like that described above. He is in his present position as Secretary of the State Board of Health solely and alone because the State Board of Health, of its own motion, and without one word of solicitation from him, put him there. His only interest is the interest of the public health in Tennessee.

If the medical profession of the State believe that the bill above outlined is for the best interest of the State Boardof Health, and for the best interest of the people of the State, they should at once get into touch with their representatives in the Legislature and with the Governor of the State, and solicit their interest and support for the bill. If the profession does not believe the bill as proposed to be for the best interests of the public health, then its members should at once get into touch with their representatives and the Governor of the State and ask them to oppose the measure.

As a matter of fact, this bill does nothing except to take the selection of the State's health officer out of the hands of the State Board of Health, limit his salary to the present sum paid him, make him a member of the State Board of Health, and empower him to appoint county boards of health and county health officers, and lessen his term of service as now determined.

There can be no doubt but that the county health service in this State needs to be strengthened, but it is doubtful that this will be done through the designs of the bill above outlined. As long as the county courts are disinclined to pay a health officer enough to enable him to devote himself to the business of the public health, just so long will the present conditions obtain, and, no matter who appoints the health officer, little improvement can be made until such officer is paid enough to make it worth his while to be a real health officer, nor until the county health department is made a **department in fact.**

The State Board of Health has, at last, laid a foundation upon which to build. It will be a thing to be regretted if the wrong kind of structure is builded or if a structure which cannot be fully utilized for a long time to come is builded and allowed to disintegrate because it cannot be fully utilized.

The interest of the health department of Tennessee is peculiarly an interest of the medical profession of the State, and through the helpful co-operation of the profession can be made to render a service than which no department of the State government can be more important. What is needed at this time is better equipment and better financial support for the State Board of Health, which will enable the department to extend its helpful activities and to intensify and more fully develop its present worthy service.

One thing is sure, whatever else may be said. No health department can thrive and give the right kind of service unless politics is kept out, nor unless men who are primarily interested in public health for public health's sake are in charge of its affairs, nor unless these men are permitted to serve long enough to devise and develop plans for the right kind of service.

MR. COUNTY SECRETARY!

We know you are busy. So is everybody else who is worth killing. But even so, the time for the annual meeting of the Tennessee State Medical Association is fast approaching. Your members should have their names reported to the State Secretary for 1919 enrollment. If all have not paid dues, send in what you have, and then go after the others and keep after them until you get them. Let us make the eighty-seventh year of our society the best year of them all. It can be done, and YOU are the very fellow that can do it.

REPORTED TO DATE.

Anderson County, with 11 members; Blount County, with 7; Chester County, with 7; Cocke County, with 7; Davidson County, with 55; Decatur County, with 6; Dyer County, with 13; Grundy County, with 1 in all; Hardin County, with 9; Hawkins County, with 3; Hamilton County, with 48; Henry County, with 1 and 1 more, making 2; Knox County, with 45; Lake County, with 10; Lauderdale County, with 20; Loudon County, with 8; Maury County, with 15; McNairy County, with 8; Monroe County, with 13; Overton County, with Dr. W. M. Brown; Polk County, with 11; Putnam County, with 8; Roane County, with 7; Scott County, with 3; Shelby County, with 80; Sumner County, with 15; Tipton County, with 11; Washington County, with 11; White County, with 13; Williamson County, with 12; Wilson County, with 8; and Smith County, with 17.

That's all! And that makes just 485. That's about two hundred behind last year's enrollment at the same time, and last year was the slowest we ever had.

We wonder where Bedford County is, and where Campbell, and Carroll, and Coffee, and Crockett, and Cumberland, and some hundred or more of Davidson's members, and Dickson, and Fayette, and Franklin, and Gibson, and Giles, and Greene, and Hamblen, and Hardeman, and Haywood, and Henderson, and Hickman, and Jackson, and Jefferson, and Lincoln, and Macon, and Madison, and Marshall, and McMinn, and Montgomery, and Obion, and Rhea, and Rutherford, and Sevier, and Robertson, and Warren, and Weakley—to say nothing of Unicoi and of all the more than 1,200 men whose names should have been reported from the various counties.

Come on in! The war's over, and there's nothing to wait for!

SPECIALISTS—ETHICAL AND OTHERWISE.

Mr. Editor:

It has been quite a good while since the writer had the pleasure of contributing an article to your Journal, and were it not that it might be misconstrued into a sort of pretense to make people think I have been busy, and thereby advertise myself, I would offer an explanation. Anyway, I will state that two of my sons, physicians, have been and still are in France, both ranking as Captains, Medical Corps. Their going left the writer with a good part of their practice, and at the age of three score and ten and three, it has required about all my time to keep up with the activities imposed.

Now, I am rather proud of these boys, notwithstanding I need them, and the public needs them at home. While I have no severe criticisms for the doctor who stayed out of the great war—for he may have had good reasons for so doing—yet I confess to an admiration for the brave fellows who sacrificed everything—home, practice, ease, financial gain, and went off at the country's call to serve the Government amid the awful tragedies of the most terrible war in all the history of the world.

I note that there are those who kept away from the Army and who, seeing a temporary vacancy in communities from whence resident physicians went to the war, essayed to move in, taking advantage of such absentees and hoping to gain a foothold ere the return of those to whom the territory in all reason should have been left open for the returning surgeons who enlisted. Well, I don't want to express myself at any length in this regard, for the Scottish blood in me which flowed in the veins of my ancestry might get too warm for comfort or esthetics. I will say, however, that before I would do a thing like that, I'd go out to some good man's farm and hire out to drive oxen, risking the probable provocation to profanity engendered by such an occupation. Further, this deponent sayeth not; let the public sentiment settle it.

But we started out to say something about specialists, ethics, etc. Special lines in medical study and practice are to be commended, taken as a matter of progress, for we owe much to men who have devoted their lives to specialism, and the advances of the past three decades are largely due to the untiring work of this class of physicians who have confined themselves to certain lines of thought and practice. But specialists are not like the celebrated "rod of Aaron" of the olden time, that the Bible legend states "budded and blossomed and brought forth fruit in one day:" we mean real specialists are not thus; albeit there are those who lay claims to the cognomen, but who seem to be like young wasps, larger when born than at any other time. These come full-fledged from college, proclaiming themselves as though to the **manor born.** It is a noteworthy fact that often they are afflicted with a retrograde metamorphosis, or with arrested development superinduced by inordinate inflation. Time was, when we were younger, that we stood in awe of them, and could only exclaim: "Why, man, he strides the narrow world like a colossus, and we poor, petty men creep around beneath his huge legs, seeking for ourselves dishonorable graves."

We have now in mind several of this class who somehow attained to such dizzy heights as to multiply themselves and to become "specialists" in almost everything—eye, ear, nose, throat, diseases of the thorax, abdomen, nervous system, diseases of women and children, gynecologists, etc., etc. We have observed men of this caliber as being frequently "interviewed" by newspaper reporters, as, for instance: "Mrs. John Smith was seriously hurt, and Dr. Blank (specialist) being called, with his usual skill succeeded in extracting a splinter from her finger. She survived the operation and at present is doing as well as could be expected." Wonderful, isn't it? But some of this class do attempt to confine themselves to their specialty, and, if so, they seem prone to attribute the cause of a multitude of the ailments which afflict our poor humanity to lie along the line of work to which they are so jealously devoted. We heard of one who offered to "cure" the piles by fitting glasses, not to the piles, mind you, but to the eyes of the patient. Contrawise, we had one in our town, a pile specialist, who could "cure" a host of disorders by injecting carbolic acid into pile tumors.

A few decades ago "specialists" in abdominal surgery were "curing" about all the diseases women had by removing ovaries. Those gentlemen would take and lead our trembling footsteps into their inner sanctum, and with pride exhibit bottles full of those sexual appendages, which they had succeeded in extracting from (we may say) perhaps not unwilling females, whose credulity had been played upon by promises of relief or cure of their "nervous" or other half imaginary complaints by thus asexualizing them. It may be dangerous, but we've a good mind to risk it, and assert that possibly a sort of an idea had place in the mentalities of some of these victims that the source of child-bearing being thus choked up at the fountain, they would not be "burdened" with the superfluity of little tots about the household to be clothed and fed and "tended to." In justice and to the praise of competent abdominal surgeons, be it said that this practice is now ancient history, and ovaries are held as most sacred, and few are removed except such as are broken down with disease, and then only the diseased portions are taken away.

We heard a few years ago of some "goiter specialists" in a Southern city who were making great strides in their special line by removing from the necks of adolescent girls so-called goiters by the peck, making to themselves quite a name as specialists.

But among all these so-called "specialists," none are more ubiquitous than the appendix "specialist." With this species a bait of cabbages leading with unerring certainty to colic is the **sine qua non** to a most speedy operation on an innocent appendix. This writer as is well known is by no means opposed to removal of appendices when they are diseased, and even in some doubtful cases of giving the patient the benefit of a difficult diagnosis; but how well do we recall as a country doctor, seeing some scores and even hundreds of cases of colics cured as if by magic by the administration of a teaspoonful of ground mustard in warm water or of some other prompt emetic. The appendix as we have it today is a part of the scaffolding left from some remote ancestor, in whom it was essential in the digestive process, and nature did not intend it to become a menace to human life, nor would it be such, per se, but for our modern disregard of the laws of digestion and assimilation, as well as of the selection of foods.

We venture the assertion that if healthy food properly prepared was taken at regular intervals, and nothing between meals save Nature's only beverage, and that in sufficient quantity, appendicitis would be among the rarest of diseases. But so long as we eat all day and half the night a heterogenous mixture of indigestible substances, and neglect means to procure necessary elimination of waste products from the alimentary canal, so long there will be plenty of work for certain specialists, as well as competent abdominal surgeons. It is easy for anybody to perform an appendectomy or to remove the little thing. It requires but a limited knowledge of anatomy and a little courage in the use of hardware. But woe to the tyro who, attributing almost all ailments that point to the abdominal cavity as a source to be cases of appendicitis, and who, having removed the offending part and holding up to the vulgar gaze as an evidence of his skill, is overtaken later with the startling fact of the existence of gall stone, kidney stone, ovarian trouble, tabes or some other manifestation of most serious pathological import, beyond the ken of his discernment. We are afraid too many young men essay to become surgeons, "right off the bat," preferring the short road to fame and the goal, rather than patient study under the masters. "The heights of great men reached and kept, are not attained by sudden flight," AND proficient specialists have come up by way of not only severe college training, but by way of long interneship, and then by the arduous route of general practice, ripened and accomplished in the large school of experience. Neither are they of that class that have discarded all therapeutics in the relief of disease, nor regard the knife as the only weapon worth while, nor look with contempt on the doctor who is not yet quite ready to relinquish all other expedients in dealing with disease.

Upon the question of ethics, we have had some rather unsatisfying experiences with certain so-called "specialists," having had occasion to refer patients now and then to some of this class, not for treatment, but for opinion, when lo! we became disillusioized, in that the "specialist" prescribed outright for our patient, even recommending an operation and a stay in a hospital, without so much as doing us the courtesy of writing us a letter.

Does anybody know upon what grounds a specialist may plead exemption from the observance of the most primitive rules supposed to control the actions of the profession all the way from Hypocrates until now?

There is another class of gentlemen we wish to pay respects to in this connection before we forget—not all, but some of them—namely, health officers. By public suffrage, political pull or in some way, doctors become officers legally qualified as custodians of the public health, essential indeed, and many and onerous are the burdens which they are called on to bear. To them are supposed to be reported contagious and infectious diseases, and often they are called in to decide the nature of a disease, or at least to give an opinion. But they are by no means, in consequence of the little brief authority with which they are clothed, thereby divorced from the common ethics of the profession. Neither (and I speak advisedly and from experience, having occupied the position in the past for several years) are they by reason of the office endowed with any greatly superior knowledge of diseases, that should give them prestige over a common practitioner. Yet it has happened within the writer's observation that, on being called in to pass judgment on a given cases of supposed contagion, the officer would, in the presence of the family or patient, give free expression of his opinion, having made his diagnosis without consultation with the attending physician, and, of course, without regard to the belief of the doctor in attendance. In one quite recent case, the health officer visited the patient in the absence of the attending physician and boldly controverted the previously expressed diagnosis of the physician. This scribe is very much in favor of law observance, and especially relative to the laws regulating the public health and the prevention of contagion, but—well, we don't want to have to deal with a health officer or any other kind of a doctor or officer who ignores us, and pays no respect to the morals or others of the profession.

In the foregoing, let us not be misunderstood. We have no war with true competent and efficient specialists, nor with health officers, but we should like to see the general practitioner treated with that degree of courtesy to which he is justly entitled, and not as though he was a back number and that his days of recognition and usefulness were over. It would be a sad day for medicine and the public if it were not for him, for he holds a sort of counterbalance in medical affairs, and he is here to stay.

Let us take a look as to future conditions, which indeed have been prophesied by some, if all the work of medicine should be given over into the hands of specialists.

A man, woman or child is sick, and Dr. A. is called in haste. He looks over the patient casually, and says: "Send for Dr. B. This case is not in my line." Dr. B. comes in and notes symptoms and politely informs the patient that he can do nothing, as the case does not come under his specialty. Dr. C. is called, with similar results. Meantime the patient is clamoring for relief, which none of them seem competent to give. Finally Dr. H. or Dr. K. makes a diagnosis of a complication of troubles, several ailments afflicting the patient, and as he can manage only one set of symptoms, it must require some two or three or half dozen doctors in the case, each one bent only on the relief of such disease with which he is familiar as a specialist. Result: Sick room overrun with doctors, each of whom we presume would also need his own trained nurse to take care of his part in the drama. Perhaps the sequella would be that of the woman spoke of in the Bible: "She suffered many things from many doctors, and was made none the better, but only worse." Can anybody imagine a state of confusion worse confounded than this? After all this camouflage it might be possible for the victim to survive, but what would be the use? for bankruptcy would be inevitable and life not worth while. Perhaps half the organs of the body would have been relegated to the "scrap pile" any way, and the "remains" have only a semblance of that which was once a human form.

Now, we need the specialists, for they are pioneers into the new and undiscovered realms of medical science and make possible things extraordinary and almost miraculous in surgery and medicine. We need the health officers, who, by the way, should be appointed by State Boards of Health to hold office during a period of efficiency, and not subject to any political influence, or to a county court composed of good men, all right, but grossly in the dark as to qualifications of health boards.

And we must have the old-time general practitioner—even the country doctor—with his broad views and big brain and generous soul, who knows something about almost everything medical, and is able to discern **when** a specialist is need, and if so, **who** and **what.**

I. A. McSWAIN.

Paris, Tenn.

NOTES AND COMMENT

If you could see the disappointed mothers who have sadly turned away from the office of the State Board of Health after failing to secure the copies of birth certificates for their children, you would never fail to file a certificate of birth for every child whose birth you attend.

Dr. T. Hugh Young, Nashville, has resumed practice in his home city, after a period of service in the Medical Corps of the Army.

Capt. A. W. Harris, M. C., U. S. Army, an officer of the Vanderbilt Medical Unit, has recently been on a visit to his family at Nashville, and is now serving in a base hospital at Ft. McPherson. Capt. Harris saw hard service in France for a full year and filled numerous important assignments with great credit to himself and to the organization of which he was a member. For several months he served with the famous Forty-second Division—the "Rainbow Division"—than which none saw harder service in France.

Capt. W. M. Johnson, M. C., U. S. A., of Sparta, has received honorable discharge and has resumed private practice at his home.

The Baird-Dulaney Hospital at Dyersburg has recently purchased a very handsome residence in that city to be used for a home for the nurses of the hospital. Contract has been let for improvements to the hospital proper which, when completed, will entail a cost of approximately $50,000. The staff of this institution is to be materially enlarged and the rules of the American Hospital Association requiring each member of the staff to give 100 per cent of his time to his own specialty will be strictly adhered to. A training school for nurses which will require three years' training is to be a feature of the work of the Braid-Dulaney Hospital.

You have been having a strenuous time, with draft board work and the "flu" and things. Now knock off when April comes, and be one of the five hundred or more at the annual meeting of the Association in Nashville.

Drs. M. A. Blanton and B. F. Loring, Union City, have returned to civil life after a period of service in the Medical Corps of the Army.

Dr. H. D. Miller, Johnson City, has received honorable discharge from the Army Medical Corps and is back at home.

Dr. J. D. Brewer, Newbern, has resumed civil practice after a term of military service in the Medical Corps, U. S. A.

Our fellows returning from France bring word of the splendid service rendered by the Hospital Units which went over from Tennessee. Indeed, all that comes from the other side indicates that all Tennessee medical men acquitted themselves with credit—which was as we expected.

If you fail to renew your membership in the Tennessee State Medical Association, you fail in your plain duty.

If you learned "system" in the Army, keep up with what you learned. If you didn't get into the Army to get "system into your system," get it there anyhow. The man who does things in a haphazard way loses a lot out of his life, and loses a lot for other folks, too.

Don't forget to file your birth certificates. It won't cost you much and it may save your people a lot of trouble.

As amended by the new war revenue act, the Harrison act will be mailed postpaid to any druggist, physician, dentist or veterinarian who will send a postal request therefor to "Mailing Department, Parke, Davis & Co., Detroit, Mich." Please observe directions strictly.

Dr. G. E. Horton, Wartrace, has returned to civil practice after a service of a year or more in the Army. Dr. Horton retired with the rank of major, having won promotion by the splendid record he made.

Dr. G. M. Ellis, having received honorable discharge from the Medical Corps of the Army, has resumed practice at Chattanooga.

Dr. L. W. Edwards has resumed practice at Nashville, having recently received honorable discharge from the Army Medical Corps.

The following named Knoxville physicians have received honorable discharge from the Army Medical Corps: Drs. L. A. Haun, R. B. Layman, R. H. Newman, O. W. Rogers, M. M. Copenhaver, R. W. Patterson, H. L. Carroll.

The following names of Memphis physicians are among those listed as having received honorable discharge from Army medical service: Drs. R. R. Davenport, W. O. Baird, W. A. Watson, J. L. Andrews, A. L. Bleeker, M. Kaplan, P. H. Wood, J. W. Mason, C. A. Allen.

Dr. Dan German has returned to his home at Franklin, after a term of service in the Medical Corps of the Army.

Dr. A. T. Clopton, Mlan, has returned to his home to resume his work, after having received his honorable discharge from the Army.

The names of the following Nashville physicians appear in the lists of those who have been honorably discharged from military service: Drs. Paul DeWitt, L. E. Burch, M. W. Seawright, C. F. Thomason, R. E. Wyatt, W. A. Horan.

Dr. C. B. A. Turner, Neboville, having received honorable discharge from the Army Medical Corps, has returned to his home.

Have you paid your dues? If you have not, do so.

Dr. Sergeant P. Martin, who has been for three years assistant to Dr. Braasch, of the Mayo Clinic, will become a member of the staff of the Baird-Dulaney Hospital at Dyersburg, on March 1. Dr. Martin will devote his entire time to urology.

Dr. B. G. Marr is now associated with the staff of the Baird-Dulaney Hospital, Dyersburg, specializing on diseases of children.

Up to this time our enrollment is not what it should be. There is nothing whatever to be gained by delaying your enrollment as a member of your local society and of the Tennessee State Medical Association. There is every reason why your name should be enrolled. Pay your dues to your County Secretary, and get in line.

Our members will be glad to know that "Old Reliable" Whitford will be on hand with his pencils and note book to put down just exactly what you say about things at the annual meeting. There may be better reporters than Whitford, but none of them have ever appeared on this part of the horizon.

If you have anything that you want to get out of your system that's worth hearing, put it down on paper—writing only on one side of paper and double-spacing your lines—and send in the subject to be discussed to the Secretary at once. Programs don't grow by themselves, you know.

Don't let anything keep you away from Nashville on April 8, 9, 10. There will be a large, fine bunch of fellows there from all over this old state, lots of whom will want to see you, and will be disappointed if you don't show up.

Dr. Frank Jones, of Memphis, has already notified us that he is going to unwind at Nashville. The subject of his paper, as he has submitted it, indicates that there will be something stirring.

Turn loose for a few days. Your nose has been on the grindstone long enough to entitle you to have a little let-up. The place to go is Nashville—April 8, 9, 10.

MISCELLANEOUS

AN APPEAL TO PHYSICIANS FOR CO-OPERATION IN FIGHT AGAINST VENEREAL DISEASES.

The war turned the spotlight on many things heretofore neglected or avoided. No disclosures were more startling than those showing the destructive inroads of venereal disease on the health and efficiency of the Army and Navy.

From the time the United States entered the war in April, 1917, to September, 1918, the loss to the Army from venereal disease represented 2,295,000 days of service.

Now the war is over!

The Nation is on its way to a peace basis.

Interest begins to turn from the fighting efficiency of the Army to the reconstructive power of industry; and as it turns, this sriking fact stands out **All venereal diseases in the Army were caused by conditions in civilian life. The Army and Navy, as organizations, do not tolerate prostitution.**

Testimony of the Army.

Immediately following the declaration of war, the Army Medical Department organized to cope with venereal disease, and one of the first points emphasized by its Surgeon-General was that each individual case must be treated under competent medical supervision until cured. He laid special emphasis on two points:

1. The ineffectiveness of self-treatment by the use of simple or patent remedies.
2. The danger of quack doctors, who advertise to treat so-called private diseases.

Nineteen months of war have shown conclusively the value of proper methods of treating venereal cases in the Army.

Maintain Industrial Efficiency.

For the protection of the fighting men as they return home, and to maintain maximum industrial efficiency, venereal disease among the civilian population must be kept under control. There is the same necessity for proper methods of treatment as existed in the service. Self-treatment and quackery must go.

Responsibility of Physicians.

Physicians have a large share in the responsibility of protecting the Nation in this emergency, by giving their best scientific attention to individual venereal disease cases. Industry does not have a nation-wide medical organization similar to that of the Army. The responsibility rests on the individual physician.

Each member of the medical profession should understand the seriousness of statements frequently made that a majority of physicians refuse to treat venereal diseases, and that many of those who do treat them are careless in their methods of treatment.

This is probably one reason for the continued spread and existence of venereal disease, for which the medical profession must assume responsibility. As a result of the refusal by a large part of the profession to give the problem proper study and attention, venereal diseases have become a headliner for quackery and self-treatment, neither of which is safe or effective.

Venereal disease is a scourge which menaces the industrial efficiency of the Nation, and the United States Public Health Service believes that physicians should understand the seriousness of the situation and their responsibilities in meeting it.

Co-operation of Druggists.

Thousands of retail druggists are responding to the request of the Government that they discontinue the sale of remedies for the self-treatment of venereal disease. They have agreed to direct customers to competent physicians or venereal clinics. Signed cards from druggists, assuring the Government of their support of this movement, are coming in by hundreds on every mail. Physicians are asked to co-operate by agreeing to have their prescriptions for venereal cases filled at high-class drug stores. This will result in a co-operative interchange whereby druggists will not attempt to treat these cases and physicians will not enter into competition with druggists in selling the medicines.

Weigh These Questions.

The Government asks each member of the medical profession what he is going to do in this emergency. Will each venereal case be given the care and attention which it demands as a serious menace to the health and efficiency of the community, or will quackery and ineffective self-treatment be permitted to help keep alive the sources of venereal disease infetion?

The answer of the medical profession to these questions will determine largely whether venereal diseases among the civilian population are to be brought under control.

ROBERT BLUE,
Surgeon-General, U. S. Public Health Service.

NATIONAL ORGANIZATION FOR PUBLIC HEALTH NURSING.

Provost Marshal Crowder takes his place on the side of the country in the race for health between city and country.

Figures being compiled by General Crowder's office show that four per cent more city boys than country boys from selected groups of each were rejected in the draft because of physical disqualifications.

This advantage on the part of the country is a small one, however, and, according to other government figures, it is less now than it was a few years ago. Here are some facts that are as significant in their bearing on the farmers' work during peace as on his part in war.

The country death rate is lower than that of the city, according to the Department of the Census, but it has increased since 1910, while that of the city has been lowered. Country children, says the Children's Bureau, are more likely to fall victims to childrens' epidemics than the boys and girls in cities. Babies under a year have a better chance to live in big cities than they do in the country.

The farmer's wife also suffers from the lack of skilled medical and nursing care. In many remote country districts, mothers and babies undergo unnecessary suffering, illness and sometimes death, because they lack the health facilities common in large cities. Pathetic letters often come to the Children's Bureau, whose campaign to save the lives of one hundred thousand babies has revealed startling conditions. Here is one of them:

"I live sixty-five miles from a doctor. When my two other babies were born I was very ill each time. So many of my neighbors die at giving birth to their children. I have a baby eleven months old now whose mother died when I reached their cabin last November. It was 22 below zero, and I had to ride seven miles horseback. She was nearly dead when I got there, and died after giving birth to a fourteen-pound boy. It seems awful to me to think of giving up all my work and leaving my little ones, two of whom are adopted—a girl of 10 and this baby."

Such conditions make unfit soldiers for the army of peace as well as war, and adequate reconstructions for the farmer must be based on a new development of public health facilities adapted to meet farm conditions. Farm leaders themselves are urging this. The Farmers' National Conference on Reconstruction, called by the Farmers' National Headquarters, in Washington, adopted the following plank in its reconstruction program:

"We urge adequate financial support by Congress for the necessary extension of the work of the United States Public Health Service; provision for a greatly increased number of public health nurses in rural districts, such service to be non-compulsory."

Secretary Houston also states that country districts must have "the advantage of modern hospitals, nursing and specialized medical practice."

Miss Julia Lathrop, chief of the Federal Children's Bureau, asks for more public health nurses, especially in country districts. The lack of these trained women, she points out, is hampering the work of her bureau in saving mothers and children.

To help to meet this demand of the farmers for better health facilities, the National Organization for Public Health Nursing is planning ways to increase the number of public health nurses with ability and training to meet rural problems.

"The health problems of the farmer and his family are many and serious," said Miss Ella Phillips Crandall, executive secretary of the organization, "and they cannot be adequately met without the aid of the public health nurse.

"The great value of the public health nurse to the rural community lies in the fact that she is at work all the time. No single family could afford to have a skilled person at hand to give help whenever it is needed, but a country or a group of people can easily afford to co-operate in employing a public health nurse.

"By being thus constantly at work in the homes of the district, the nurse is able not only to help to cure sickness, but to teach methods of keeping well. She also detects contagious disease and is able to check it.

"The great problem is to find sufficient nurses to do the work, and to provide the right sort of training for them. The national organization is raising a fund for scholarships to enable trained nurses to take the additional course in public health work.

"It seems to me that the thing for farming communities to do is to study their own needs, whenever possible to appoint one person or a committee to study the situation, decide what service a nurse could perform, if possible raise money for her services, and communicate at once with the national organization in its New York office, which is at 156 Fifth Avenue. Part of the work of the organization is to advise communities and to assist them in securing nurses.

THE COMING YEAR'S WORK.

At the beginning of this new year one can scarcely refrain from indulging in thoughts of both past and future. It s a time for casting of accounts.

The world war has taken its toll from the profession just as it has from the ranks. An unusual number of brilliant medical men have crossed the great divide. Many promising business practices have been sacrificed, and generally the profession has been hard worked. The world has been jostled as it never was jostled before, and no science, art or industry has been more jostled and upset than has the medical profession.

When we as individuals have again assumed our normal poise, and have readjusted our affairs to fit in and coincide with future conditions as they may arise in accordance with a post-war era, we must then as a profession, as an organized profession, give our attention not only to those things which are of importance to mankind, but also to those things which are of vital importance to the profession.

The societies of specialists will in a very large manner take care of scientific medicine, although it is the duty of organized medicine to encourage and aid the interests of that science. Organized medicine must serve two functions: first, the function of encouraging, stimulating and creating medical science, and, second, it must strenuously guard the rights and economic interests of the profession.

In these days of multiple welfare associations, of over-zealous health officers or public health departments, of so-called state medicine and other quasi-health functionaries, the public will suffer many wrongs and injustices, and the profession will be used as the proverbial "free horse" and scapegoat. It is already being used largely as the "free horse."

The mismanagement of the quarantine regulatiosn in many places during the present influenza epidemic indicates the necessity of the profession taking a more decided interest in such matters. It would indicate that perhaps health matters, especially in the larger communities, should be in the hands of a board composed of several members of the profession, rather than in the hands of one individual.

The question of state medicine already appearing on the horizon is a subject for the organized profession to ponder. Before the next legislature will be placed the iniquitous plan of compelling physicians to register annually and pay a fee for so doing, thus making them carry a financial burden of supporting the Board of Registration and Education.

Another vicious bill in some form will go before many of the state legislatures sono, asking for compulsory health insurance. It has proven a failure in other countries and is quite generally condemned by the profession. It is another German paternalistic method, fomented and espoused principally by so-called welfare workers, and is not wanted by the employee, the employer, the profession or anyone else responsible. However, the bill will be strenuously pushed, and it will remain for the profession to fight it or carry much of the burden.

There are many problems which must be solved by the organized profession, such as that of medical education, reciprocity between the various states, standardization of medical colleges, standardization of hospitals, the proper division of fees paid for joint services, and many other perplexing questions. All of these cause us to speculate on the future. If these and other problems are not solved in a manner dealing fairly with the profession, sooner or later the stimulus for medical men will cease, and just so far wll come medical decadence. Nothing, we believe, could kill the interest in the study of medicine more than would the adoption of state medicine. We are not afraid of state medicine being adopted all at once, but the tendency is drifting toward us, or rather is being pushed toward us by these several agencies. Most of these problems are not of especial menace to the men of some years in practice, but are surely threatening the status of the profession of tomorrow.

From the scientific side of medicine there are many perplexing, unsolved problems confronting us, over which the medical scientists at least will delve most strenuously, and on this beginning new year we can but speculate on the results of the coming decade. The war has interfered greatly with scientific medical study along many lines, adding much, it is true, to the advancement along other avenues.

The great enigma of medicine—the ductless glands—must be solved. We cannot boast much at the beginning of this new year of our knowledge relative to their physiology or bio-chemistry. The relationship of the ductless glands to the renal-cardio-vascular system is still in darkness. Our knowledge of the cancer problem has not advanced materially in a number of years. The many problems of immunity and infection are only guessed at. The death dealing work of the armies is over, and it now remains for the medical profession to salvage and restore to usefulness the greatest possible number of the wounded.

How much of all this work may be accomplished during the year now beginning is problematical, but the profession will be at it. While medicine is progressing, let us not forget that the profession of the next decade must live rightly in order to progress, and let us so work now that progressive medicine will not slacken its pace.—Editorial in Illinois Medical Journal.

INCOME TAX RETURNS MUST BE FILED BY MARCH 15—HEAVY PENALTIES ARE PROVIDED.

Washington, D. C.—Work on the collection of $6,000,000,000 has been begun by the Bureau of Internal Revenue. This is the estimated yield of the new revenue bill. The income tax provisions of the act reach the pocket-book of every single person in the United States whose net income for 1918 was $1,000 or more, and of every married persons whose net income was $2,000 or more. Persons whose net income equaled or exceeded these amounts, according to their marital status, must file a return of income with the Collector of Internal Revenue for the district in which they live on or before March 15.

Here is what will happen to them if they don't: For failure to file a return on time, a fine of not more than $1,000 and an additional assessment of 25 per cent of the amount of tax due.

For "willfully refusing" to make a return on time, a fine not exceeding $10,000, or not exceeding one year's imprisonment, or both.

For making a false or fraudulent return, a fine of not more than $10,000, or imprisonment for not more than one year, or both, together with an additional assessment of 50 per cent of the amount of tax evaded.

For failure to pay the tax on time, a fine of not more than $1,000 and an additional assessment of 5 per cent of the amount of tax unpaid, plus 1 per cent interest for each full month during which it remains unpaid.

In addition to the $1,000 and $2,000 personal exemptions, taxpayers are allowed an exemption of $200 for each person dependent upon them for chief support, if such person is under eighteen years of age and incapable of self-support. Under the 1917 act, this exemption was allowed only for each dependent "child." The head of a family—one who supports one or more persons closely connected with him by blood relationship, relationship by marriage, or by adoption—is entitled to all exemptions allowed a married person.

The normal rate of tax under the new act is 6 per cent of the first $4,000 of net income above the exemptions, and 12 per cent of the net income in excess of $4,000. Incomes in excess of $5,000 are subject also to a surtax ranging from 1 per cent of the amount of the net income between $5,000 and $6,000 to 65 per cent of the net income about $1,000,000.

Payment of the tax may be made in full at the time of filing return or in four installments, on or before March 15, on or before June 15, on or before September 15, and on or before December 15.

Revenue officers will visit every county in the United States to aid taxpayers in making out their returns. The date of their arrival and the location of their officers may be ascertained by inquiring at the offices of Collectors of Internal Revenue, postoffices and banks. Failure to see these officers, however, does not relieve the taxpayer of his obligation to file hi sreturn and pay his tax within the itme specified by law. **In this case tax-**

payers must seek the Government, not the Government the taxpayer.

ALL-YEAR MEDICAL SCHOOLING.

Those medical schools that complied with the request of the Government to speed up the production of doctors by continuing work throughout the summer months are now experiencing some difficulty in a readjustment of their classes to meet the requirements of state laws and the regulations of boards of examination and registration. In other words, there seems to be a disposition to prevent medical schools from continuing where they left off unless continuance is to be contingent on no credit, which in reality is an injustice to the students as well as to the schools. The medical student who worked hard throughout the hot summer months last year in order to secure his diploma at an earlier date, and thus earlier become available for service to his country in time of need, should not be required to pay a penalty, now that the war is over, by not receiving credit for the work that was done. In fact, such a student deserves the special consideration of being permitted to continue, if he so chooses, this "speed up" process as already begun, and to receive full credit for all work that has been performed in a satisfactory manner.

This leads us to the further thought that there is no good and sufficient reason why colleges of every description should not continue throughout the entire year, and why credits should not be given for work done during the summer months as well as for work done during any other months of the year. There really is no excuse why students who have reached mature years should not be permitted to continue their studies throughout the year, and thus shorten the educational period. In the case of the professions, and especially that of medicine, the requirements are now so exacting that the saving of a year in time is worthy of serious consideration when we realize that the average well-educated and well-trained young doctor of this day and age is anywhere from twenty-eight to thirty-five years of age before he can begin the practice of medicine independently. There is no good and sufficient reason why the medical course should not consist of three years of twelve months each rather than four years of nine months each, due allowance being given for the customary vacations between semesters. The idea that students must have a summer vacation of three months is one that has been handed down for generations, but in reality it is not an idea that deserves to be perpetuated. There is no more reason why a student should not work during the summer months than that the doctor, lawyer, or merchant should not work during those months; and if the student, like the average professional man or merchant, gets a reasonable number of vacations throughout the year he is quite able to do satisfactory work throughout the entire year. In fact, the student who gets three or four vacations during the year probably gets more vacation than he ever will get when he gets away from college and is following a regular vocation. But, aside from all this, the year-round session affords an opportunity for that economy of time which in this age of efficiency and achievement is worthy of the most serious consideration.—Editorial in Journal of Indiana State Medical Association.

NEW AND NONOFFICIAL REMEDIES.

Chloramine-T, Monsanto.—A brand of chloramine-T which complies with the New and Nonofficial Remedies standards. The properties, actions, uses and dosage are described in New and Nonofficial Remedies, p. 156. (Monsanto Chemical Works, St. Louis, Mo.)

Arsaminol.—A brand of arsphenamine complying with the New and Nonofficial Remedies standards. Arsaminol is supplied in sealed tubes containing, respectively, 0.1 gm., 0.2 gm., 0.4 gm., 0.5 gm., and 0.6 gm. (Takamine Laboratory, Inc., New York. Jour. A. M. A., Jan. 18, 1919, p. 193.)

Digitan.—A digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standard biologically. Digitan was first introduced as digipuratum and is made under the digipuratum patent by license of the U. S. Federal Trade Commission. The actions, uses and dosage of digitan is the same as those of digitalis. It is sold in the form of a powder and as digitan tablets, 1½ grains. (Merck & Co., New York.)

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary **J. F. GALLAGHER, M. D., Associate Editor**
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., MARCH, 1919 NUMBER 11

VOCATIONAL TRAINING FOR INMATES OF INSTITUTIONS FOR MENTAL AND NERVOUS DISEASES.*

By R. E. L. SMITH, M. D.
Superintendent Eastern Hospital for the Insane, Knoxville.

I assume no one will deny that a hospital for the insane is maintained primarily for the benefit of the public. Its aim is to provide a safe place for those who would do harm if allowed their liberty, and at the same time afford all remedial agents to restore every patient possible to the community.

Our insane are peculiarly entitled to every consideration at the hands of the hospital authorities, who are the agents of the public and have taken great authority upon themselves in removing the patient from his home, usually against his will, and depriving him of his liberty by due process of law.

The insane patient is confined not because he has wilfully violated the rights of society, but because as a result of disease he has become unfit or unsafe to remain at home. It always seemed to me, for this very reason, that our hospitals for the insane should be compelled to furnish the best care, skilled medical and nursing staffs, abundant, nourishing food, comfortable quarters, and every remedial agent that is approved.

Those who seek aid in general hospitals or almshouses do so voluntarily, because they believe they can be cared for there better than in their home surroundings. The public owes a peculiar debt to its insane wards, which, it may be said, it cheerfully pays, as a rule.

The passing generation saw the care of the insane evolve from the jail and almshouse standards to the modern hospital, as we call it. A number of philanthropic people, appalled at the prevalence of insanity in our midst, have earnestly advocated and have attempted to put into practice hospital methods for caring for the insane. They urge the last extension of the hospital methods and the adoption of the externals of the general hospital. With this reform, our hospitals for the insane have adopted training schools, not only for the nurses, but for the patients themselves. With the advent of the training school, much has been done to give relief and render useful many of our poor unfortunates who were heretofore treated with restraint, isolation and drugs. While our medical staff at the Eastern Hospital always keeps abreast of the times in therapy, medicine and surgery, drugs *per se* as a means of mental restoration have no place in our hospital. It is noteworthy that in our hospital, with a population of 700, not over a half dozen hypodermics of morphine or any other narcotic drug have been given in the past year.

Diversional occupation is the one thing, together with proper hygienic surroundings and proper nourishment, regular habits and homelike and pleasant environment, that has given us our best curative results. In the short time I have had the pleasure and honor of being superintendent of the Eeastern Hospital, we have given a great deal of study to occupational treatment, and observing the results, we are able to state that this method has in every instance proven satisfactory.

---

*Read before Knox County Medical Society.

The persistent motive must be to find some basis of interest to the patient. The aim should be to find something light and easy for him or her to do that would take his attention from self. Do not think, however, that there is any one class, or group of classes, of work that is a specific for nervous cases, any more than that there is one medicine for all diseases. The main thing is to find some basis of interest in the person, and there are almost as many different tastes as there are individuals. We might well say that each case is a law unto itself. Very rarely will a patient be interested in a class of work requiring much mental effort; then, as we have no panacea in vocational training or any limited group of subjects, the problem of straightening up cases of mental or nervous diseases is necessarily to ascertain the thing in which the patient is most interested, and then furnish work or instruction in that direction, no matter if it is painting, ironing, farming, gardening or what not.

With mild cases the patient should be directed toward regular recognized wage-earning occupations, letting him make the choice for himself, trying to keep him as closely as possible to former work so that his industrial experience and skill may not be altogether scrapped, and if possible move him to a position of greater responsibility and skill, where he must use his intelligence more and his physical strength less.

The gospel of the busy life for everybody is being preached and practiced by all institutions which are keeping pace with the advancement of the times, and salvation through honest work applies as much to the mentally defective as to any other class of defectives. An idle brain is truly the devil's workshop, which old adage may have had its origin behind the dark, dungeon-like cloistered walls of the first historic asylums for the insane, where witchcraft, the spirits and the devil held indispensable sway. Today our hospitals everywhere resemble the vigorous productive industrial plant of some wide-awake American corporation. Every energy and thought is directed to the employment of its inmates for therapeutic effect. Commanding the services are trained specialists in each line of work. I believe congenial employment has proven wholesome and restorative to many of this class of unfortunates. The slogan of our institutions, in my opinion, should be the re-education of its inmates.

The patients in our hospital are given work in housekeeping, farming, gardening, dairying and sewing. We try to observe each patient and by experiment find some particular work the individual takes most kindly to and is interested in, and put him to work at it. If we can find work that suits the patients, almost invariably they will be better contented, and we note they soon become more quiet and more normal in every way. Where this plan has been tried the success has been wonderful, and patients with minds no better than a baby's have been taught to look after themselves; raving maniacs have been turned to quiet patients, and the whole service has been improved by greater liberty and industry. There is no question or doubt that this field of endeavor offers the greatest hope, not only in promoting and maintaining physical health, but in restoring favorable cases to their normal mental state. As occupation is the basis of treatment, no one should be exempted except for cause, and the relatives and friends of the patients should be made to understand this and our reasons for it when the patient is admitted. Some people come to the hospital to visit their friends and kindred and find them working in the corn or hay field, or elsewhere, and talk ugly about it and think we are imposing hardships on them and making money by their labors.

A great precaution should be taken, however, to avoid excessive laborious and monotonous labors. We employ from about seventy-five to one hundred men on our farm, garden and lawns. (If you don't believe we have a nice and prosperous place, come down and see and be convinced.) Our patients count it a special privilege to work out. Our dairy furnishes employment for from five to ten men; our sewing room furnishes employment for from fifteen to twenty women; our cannery furnishes employment for from twenty-five to thirty men and fifty to seventy-five women.

Occupational employment in the treatment of nervous and mental disorders is not merely to obtain the beneficial physical effects of muscular exercise, but because of its value in relieving emotional tension and promoting mental and physical spontaneity.

I am exceedingly anxious that a proper conception be had not only by the physicians of our country, but by the laity as well, of the great work that is being carried on by the institutions of our state. Let's get thoroughly away from the old idea of a mad-house and look upon our institutions for the insane as modern hospitals for the treatment of as positive a disease or condition as appendicitis or any other malady, equipped for the cure and care of conditions that affect the mind and nervous system. These institutions are not to be considered as jails, places of punishment, isolation, misery and woe, for they are anything else but that. If we succeed in interesting our patients by kind treatment and rest from the condition which brought about their trouble, and get a peaceful quiet for them by proper surroundings, nourishing food, proper medical care, together with vocational training, much and lasting good can be done for this class of poor, miserable wretches. Many can be restored to usefulness to themselves and their community if taken in time.

Just here let me say that an early diagnosis in cases of insanity and corrective treatment is of as great importance as any disease we know. Valuable time is lost and many persons are rendered incurable by neglecting treatment in the early stages of this form of disease.

Much more can be said for this form of treatment, but it would be beyond the purview of this paper. I hope I have said enough to provoke a liberal discussion of the subject.

THE ALIENIST.*

By L. D. Smith,
Member of the Knoxville Bar.

The etymology of my subject scarcely justifies its selection as indicating the principal thought which I wish to convey. We have adopted the French interpretation of the word, and that is but distantly related to the Latin from which it is taken, and have applied it to the specialist who devotes himself entirely to the study of mental disorders and, by virtue of his attainments in that line, lends himself as a professional witness or adviser in causes where life, liberty or property are under investigation and for determination by the courts of the country.

The alienist is the highest development of the medical expert; but the term may be and is coming to be used to describe the medical expert witness generally. It is in that sense that I am using it, and take advantage of this occasion to exercise one of the prerogatives of my profession to give advice without a fee.

A medical expert who confines his labors to that of a partisan assistant or adviser can be subject to little or no criticism. In that sense he is fulfilling a distinct profession. He sells, as he has the right to do, his services to those who seek them, just as a lawyer may sell his services. Of course, even his usefulness in this respect may be perverted, just as a lawyer may go beyond proper limitations in the practice of his profession. But the medical profession at large, nor society, cannot complain at the medical expert who confines his operations to advice or partisan service. It is known of all men that he is filling such a capacity.

It is the medical man or medical expert who appears as a witness that is calculated to do the most harm to society and bring ignominy and shame upon his profession.

It may be a debatable question as to whether the professional medical expert who acts only in the capacity of an adviser is a benefit to society to be encouraged or a positive injury to be eradicated; but he is a natural product and outcome of our present civilization and is outside of the realm of the medical practitioner and to be dealt with through other channels. Furthermore, we have not reached the point in the development of our civilization where the medical expert can be eliminated as a witness, conceding that it is desirable to do so.

It is now generally agreed among the best authorities that the medical man belongs to the human species and therefore has in him the elements of both good and evil. Hence, in dealing with him as a witness we must bear in mind that the education and training which he has had makes him the more powerful for good or for evil. We cannot change his nature and must consequently throw around him such environments as will curb his evil instincts and promote his beneficent impulses.

---

*Read before Knox County Medical Society.

The opportunity for the medical man as a witness to be an instrument of harm must not be underestimated. His practice brings him in touch with the masses of the people, who learn to have great respect and confidence in him. He is looked upon as possessing a degree of learning far superior to that of juries, courts and lawyers. He may impose his opinion upon those who trust him and, if influenced by improper motives, may be the means of great injustice being done. This evil which the medical witness has done in the history of jurisprudence so outweighs the good that the profession groans today under the burden of disrespect. Its power for usefulness has been impaired, and if the practice continues to grow in the future as it has in the past, the time will come when the testimony of the medical man will be prima facie evidence of wrong upon the part of the litigant who introduces him, and the profession itself will enjoy the reputation of being ready to swear in behalf of the cause of him that can pay him for his services, notwithstanding the profession will be full of good men whose integrity is irreproachable, and who must suffer along with the rest of their brethren for the shortcomings of the few whom the public accept as samples of the profession.

This does not necessarily argue that the medical man ought never to become an expert witness. As long as men are charged with crime; as long as men dispute over the title to property; as long as men receive injuries—in fact, as long as the courts are open to the people for the settlement of controversies, that long will the services of medical men be called upon to testify; that long it will be necessary to inquire into the probable future effects of particular occurrences on the body, mind or nervous system; to inquire into the elements of permanence or injury or disease, and what would be a sufficient cause for a given result; whether a given condition could have resulted from a specific injury or neglect; or would be likely to so result, or could have been caused by a certain weapon; or what was the cause of certain symptoms under given circumstances; which among several possible causes was the probable or proximate one; whether an injury was self-inflicted, made by a sharp instrument, or could have been inflicted in the way described; whether a certain treatment was a proper or necessary one, or sanctioned by medical usage, and how it would likely result; the character of an injury and what treatmen is or would have been proper; whether a testator, a witness or a prisoner was afflicted with any abnormal mental disease, or was in a condition of idiocy, insanity, dementia or weak-mindedness—these are some of the manifold problems presented to the courts for determination, in which the testimony of men qualified by scientific study and experience can render invaluable service in aiding in the truth being arrived at.

It is equally as clearly manifest that the medical expert may be employed and his testimony utilized to aid the designing and vicious and to prevent the establishment of truth and the administration of justice. The reason why the medical expert can be utilized oftener in the cause of the unjust is not to be found in the fact that he is worse than other men, but in the opportunity which his profession affords him, coupled with the fact that he possesses all of the instincts of other men. The witness stand is sacred ground. From that position the unbiased, unprejudiced truth is to be derived. How much of the truth is to be thus obtained depends upon the intelligence of the witness, his interest or lack of interest in the subject matter in controversy, his bias or prejudice. The medical man goes upon the stand, no matter by whom employed nor how large a fee he has received, with the assurance that he is not influenced by any motive except the desire to speak the truth. We have the right to expect that of every witness. It is not left to the student of human nature to know—it is common knowledge—that a witness employed and paid to give evidence is not an unbiased witness. He does not have to be a bad man to be partisan in his testimony.

If we could always have for medical expert witnesses men who were thoroughly conversant with their subjects, and honest men, and place before them all the facts which could possibly influence judgment, we would still be very far from getting the absolute truth if he were being paid by one side or the other to testify. How much less, then, can we expect the truth, and how much more dangerous to society and the medical profession when we know that a large proportion of the medical profession are not thoroughly conversant with their subjects, are not honest men or are ignorant men subject to the influence or bias or prejudice brought about by the fee which they are paid?

Under the law as it exists in most states of the Union, and as it exists in this state, any practicing physician in good standing is competent to testify as an expert, even though he is not a specialist on the particular subject. That being the case, any and all practicing physicians may be called upon to give expert testimony, and as the usual fees for such services are liberal and may be fixed in proportion to the importance of the case, or upon the contingency of the case, a great many practicing physicians hold themselves in readiness to be employed for that purpose—the ignorant as well as the intelligent, the dishonest as well as the honest. The practice of physicians to accept employment as witnesses has been so common, and it has so often happened that such witnesses have been employed upon a contingent basis, and so many of them have been found to be ignorant, dishonest and almost universally prejudiced and biased, that the medical expert has come into disrepute, not only with the judicial officers of the country, but with the people at large. The theoretical character of the testimony which they must necessarily give has made this condition possible. The result is that the public has come to believe that nearly any physician can be employed to give evidence favorable to the side employing him, just as a lawyer can be employed to represent his cause. And why should not this be the case? No court would for a moment take as authority the sworn statement of law given by counsel retained on a particular side, for the reason that the most high-minded men are so swayed by an employment of this kind as to lose the power of impartial judgment. There is no civilized community in which the reception of a present from a suitor does not only disqualify, but disgrace the judge. Where is the distinction in effect between paying a witness an exorbitant sum of money for his testimony under the guise of a fee, and bribing him to say the same thing? It is morally certain that all his sympathies and prejudices are enlisted upon the side that solicits his patronage, and pays royally for it, especially when that fee or payment is contingent upon the success of the party employing him. If this is not bribery, it has everything bad about it except bribery.

It would be an easy matter if we had to deal only with the ignorant or dishonest medical expects. It is easy to expose ignorance and dishonesty. To illustrate: In one case a doctor testified that he was a graduate of a medical college; that he had been attending surgeon at a hospital and had been on its advisory board for years; that he was a professor of surgery in a clinical school, and had examined and treated the person whose condition was under investigation, and he was in a position to testify that that person's mind was affected. Notwithstanding this claim of his, he could not conceal his lack of intelligence, and his whole testimony was destroyed by a very simple question. The lawyer on cross-examination asked him if he was an alienist, and he answered with vigor and indignation: "No, sir, I am an American citizen!" It is not such an easy matter to unmask the dishonest man, because he may be very intelligent and able to shield himself against the attack of a cross-examination. It is not always possible to detect his dishonesty, as was the case where the plaintiff's expert doctor testified with respect to certain of the reflexes. In that case, on cross-examination, he was asked if he had taken certain reflexes, and he said that he did, and certain others he did not take. He was asked if he had taken the reflex known to the profession as the "cerebro-piper-heidsieck" reflex. He said he did not, but recognized it as a standard test in that kind of a case. This doctor was evidently not familiar with the brand of champagne or tobacco that goes by the name of "Piper-Heidsieck," and therefore did not suspect the lawyer of laying a trap for him. But the medical profession itself can be depended upon in a large measure to protect itself and the public against the dishonest physician. We can generally overcome the evil effect of the bigoted pundit among the profession who sometimes gets upon the witness stand. I refer to the physician who prefers to speak in large language of simple facts. The one that feels his importance to such a degree, and is so opinionated and egotistic as to wish to impress his great importance upon the triers of fact. The physician who could easily say that the injured party had a black eye, but prefers to express it in language to impress his importance by saying: "I discovered considerable ecchymosis under the left orbit, caused by extravasation of blood beneath the cuticle."

It is the fact that the average physician who by reason of having devoted his time and energies to the cure of disease has not really qualified himself to give expert testimony, is compelled or allows himself to be called as an expert witness, which has brought about a condition the dangers of which to society and the profession are so obvious, and which I would obviate. Like other men, he becomes a partisan to his side, and often actuated by improper motives, becomes nothing more nor less than a hired witness. More often than otherwise he is unfamiliar with the scientific laws that produce results in the case in which he is called upon to express an opinion. If he is inclined to be egotistic he may impose upon the ignorance of the jury, the court and the lawyers, and bring about very unjust results. These results are most frequently exposed by time, and often upon the witness stand, and the profession suffers the consequences. The public justifies its belief that an injustice was brought about by a hired doctor. Of all crimes which men abhor, perjury, perhaps, is the worst, and no man can escape the charge of perjury, however truthful his answers may be, if it is known that his evidence was subject to the influence of a bribe, or fee.

I am quite sure that all medical men everywhere who take a pride in keeping their profession above suspicion in order that it may serve its most useful purpose will be glad to find a remedy for this evil. They would protect the competent expert witnesses who are able to testify to the truth, and only the truth, and would be glad to find some method by which it can be made easier for honest, competent men to assist in showing the facts in a court of law, and more difficult and embarrassing for liars and incompetents to assist in concealing and distorting the truth, and thereby not only place the profession above suspicion in this respect, but in a position to serve the interests of society. Legislatures have attempted it by providing for the certification of experts, and prohibiting any man from giving medical expert testimony except those who have stood the test of the standard set. Various schemes have been suggested and tried, but none of them have been successful.

I believe the remedy lies with the profession itself. There are enough men in the profession who set a high standard of conduct and appreciate the importance of removing every obstacle to the confidence of the people to adopt measures for the prevention of this evil.

The physician's purpose in life is to heal the sick, to relieve pain. Every influence or effort which has a tendency to turn him away from this purpose in life is harmful and should be restricted. No man who makes it his business to practice medicine ought ever to allow himself to be called upon when it could be avoided, and ought never to solicit or volunteer his services as an expert witness unless it, perchance, be to save a human life, and then only when it can be positively asserted and well known that he is testifying from an impartial standpoint. You may say that when a man is called upon to testify as an expert witness he ought to be paid for his time. That is undoubtedly true; but the physicians' time ought to be devoted to the relief of the distressed and the administration of medicines for the prevention and cure of diseases. He ought to have no time for other professional services. Let that work be given over to the specialist—to the alienist, if you please. But, you say, the physician cannot refuse to answer a subpoena. I answer to that, I say I never knew of a physician being compelled to give expert testimony in any case. No physician is ever called for that purpose unless the man who calls him knows beforehand what he will swear, and if the physician will only refuse to give an expert opinion he need never fear being forced to testify. But some will say—and there is reason in this—that a man whose liberty is at stake, whose life or even his property is involved, is entitled to the benefit of the expert knowledge of the medical man. I grant you that this may often be the case; more often, however, the experts' evidence is sought and had for improper purposes, and the few instances in which the physician's duty to society may make it necessary for him to give expert evidence may be so regulated by the profession itself as to make the expert an impartial, unbiased and honest witness.

May I not suggest as a remedy that no physician be permitted to become a member of this society or of any society of physicians who has ever accepted a contingent fee for expert testimony, and who will not agree that he will never commit such an offense? Any litigant who may honestly desire the impartial evidence of a medical expert can procure it by appeal to the society or some committee especially selected for that purpose to designate some member who is qualified to speak without the physician who is selected knowing who pays his fee. In fact, the fee should be paid by the society, and should be the same without reference to the result.

If this plan were adopted throughout the United States by the medical profession, or if it were adopted by the physicians who are members of this society, the time would soon come in this community when it could no longer be truthfully said, and no man would dare to say, what has been said by jurists, "that there is no hypothesis so monstrous that a medical expert cannot be found to swear to it on the stand, and defend it with vehemence when off the stand." Then the language of Lord Chancellor Campbell in a celebrated case, referring to medical experts, "They come with such a bias on their minds to support the cause for which they embark that hardly any weight should be given to their evidence," will no longer be applicable.

LESSONS FROM A STUDY OF ONE THOUSAND DIPHTHERIA DEATHS.*

By Bernard W. Carey, M. D.
Boston.
Epidemiologist, Massachusetts State Department of Health.

A statistical study made by the Massachusetts Department of Health of one thousand deaths due to diphtheria has taught several interesting and important lessons.

Deeply concerned by the apparent apathy of physicians and organized health agencies towards the failure of the morbidity rate to decline while the mortality rate has been so markedly reduced by the use of antitoxin, the department started an investigation to ascertain, if possible, what factors might be responsible for this condition, and to remedy it, if possible.

The fact that the morbidity curve has not followed the decline of the mortality curve means much, for in diphtheria we have one of the few conditions for which there is available accurate means for diagnosis both of the acutely ill, and of the healthy carrier, agencies for determining the susceptibility of persons with their subsequent immunization and specific therapy for treatment of the infected individual.

In order that the statistics might be uniform, blanks were prepared asking for the name, age, sex, school, social condition, date of onset, date of physicians' first call, date of administration of antitoxin and amount, source of infection, form of the disease, date and cause of death.

From an epidemiological viewpoint, results were not different from what was expected, the age incidence agreed with figures set forth by the Federal Census Bureau, which states that "about 65 per cent of all deaths from diphtheria and croup in the registration area for deaths occurred in children under five years." The statistics from our studies were as follows:

---

*In Boston Medical and Surgical Journal, January, 16, 1919.

1 year or under	20.0%
2 years or under	13.4%
3 years or under	11.9%
4 years or under	9.8%
5 years or under	6.9%
6 years	7.4%
7 years	5.5%
8 years	3.7%
9 years	1.8%
10 years	1.8%
11 to 15 years	3.0%
16 to 25 years	1.3%
25 to 60 years	1.1%
Age not given	12.1%
	100.0%

Sex. Creighton states that "diphtheria is the only epidemic condition, besides whooping cough, which is more fatal to females than to males in proportion to the number of each sex living." In the earlier age groups a slight increase in the male deaths has been found, while in the later age groups, females were seen in increased proportion. When one considers that as a rule females come in closer contact with the infection, acting as nurses for those ill, it is perhaps apparent why this increase in the female groups should occur.

School. The influence that school plays in diphtheria infection is one of extreme interest and importance. As the greatest number of deaths occurred in children under school age, it might first appear that they were not under school influences; but, the question naturally arises, did they receive their infection from school sources, or are they the source of school infection which has been carried from the home? As far as is known at the present time, there have been no statistics to prove just how great a part the school plays in the distribution of diphtheria in the pre-school group. A special investigation is planned to determine, if possible, just what relationship may exist between these particular age groups.

In the later age groups the school factor plays a large part in the spread of diphtheria. In the rural communities, with little or no school supervision, the disease is apt to spread rapidly, and occur as an outbreak of varying size. In the city, where there is more efficient school supervision, the taking of cultures with prompt detection of healthy carriers, and incipient cases, giving earlier recognition of the disease, prove an admirable means of prevention, and of control of diphtheria outbreaks.

Social conditions seem not to play a very great part in the deaths, for while the greater number occurred among the poorer class, a considerable number of deaths occurred among the more well to do.

The most common cause for this was in the group of unrecognized cases with its mild insidious onset resulting in the late attendance of the physician, and the late administration of antitoxin. It was also found that many of the deaths followed intubation. This, of course, is a procedure instituted late in the disease, and when the heart muscle, weakened by toxic agents of the infection, was not able to withstand the strain of added muscular resistance of this procedure. The question arises whether it would not be better to do a tracheotomy, having the opening permanent, with resultant freedom in breathing, than to intubate with the risk of the intubation tubes coming out or becoming plugged with exudate, necessitating reintubation.

Source of Infection. One result of the investigation showed that the source of infection was known in only 10.7 per cent of the cases, and unknown, or not given, in 89.3 per cent. Here is evidence that it is indeed hard to trace positively the source of infection when all groups of people are taken. It was found particularly difficult in the foreign element, who either could not or would not give the required information. Among the English speaking groups, there was marked evidence that the interest in the epidemicity of diphtheria was lacking even in those cities and towns where health officers are employed on full-time basis.

The axiom that scientific diagnosis must precede intelligent treatment might well be paraphrased to intelligent epidemiological investigation must precede efficient control of outbreaks, for we surely cannot reduce the morbidity rates of communicable diseases with infection sources unrecognized and at large in their communities.

The seasonal percentage incidence of deaths was as follows:

January	9.5	July	2.8
February	9.6	August	6.3
March	7.0	September	7.2
April	8.5	October	10.9
May	3.8	November	12.6
June	5.8	December	12.3
Not given	3.6		

This is of value only to confirm other statistics which have been compiled from other sources.

Form of the Disease. In the study of the deaths, laryngeal diphtheria was far more prevalent than other forms; pharyngeal was next in order of frequency and nasal form last. Many physicians appear to feel that membranous croup is still a distinct disease and do not recognize it as a diphtheritic infection until too late. Perhaps one reason for the retention of this erroneous opinion is that due to faulty technique, positive cultures are seldom obtained in the earlier period of the disease. In order to obtain a positive culture in the beginning of this form of diphtheria, it is absolutely essential that cultures be taken from the larynx, and to do this a proper speculum, good light, and an assistant are needed. It is, however, under these conditions, perfectly feasible, and if employed would mean the earlier recognition of the disease and administration of antitoxin with resulting lowered mortality.

This difficulty of culturing does not exist, however, in the pharyngeal type, and some other reason must be sought to account for the excessive number of deaths. One of the most prominent appears to be that in many instances the condition is unrecognized and is treated as a simple tonsillar infection until too late for the antitoxin to be efficacious. The nasal type also plays an appreciable role in our deaths. Many histories show that this condition was unrecognized and the treatment in many instances was that for a catarrhal infection or "common cold."

The obvious deduction to be made is simply this: that a culture should be taken in all conditions where there is a possibility, even though remote, for diphtheria to be suspected. Here, without doubt, is the basic feature which plays the greatest part in keeping the morbidity and mortality rate higher than it should be, and one that can be corrected if consistently borne in mind.

Causes of Deaths. In general, statistics classify the deaths in diphtheria as those due to cardias, respiratory, or toxic causes. It seemed, however, that an analysis of these causes should be made to see if it would be possible to ascertain any more definite information as to the exact cause of death. Approaching this angle of the investigation by inquiring first the number of days the patients were ill without medical attention, our findings were as follows:

1 day	17	5 days	35	9 days	2
2 days	34	6 days	28	10 days	14
3 days	41	7 days	39	11 days or over	20
4 days	37	8 days	6	Several days	42

In other words, 23.1 per cent were sick a week, 4.2 per cent were sick from one to two weeks, and 4.2 per cent were ill several days without medical attention.

It is amazing that so many children should be so neglected by those responsible for their comfort and welfare. Something must be done to awaken in these people their sense of responsibility. It appears that education of this group of individuals must be undertaken to arouse them from their state of indifference or ignorance. How this result is to be best obtained may vary with the individuality or locality, but it is perfectly clear that health workers, worthy of their vocation, should bend every effort to this end, doing their utmost to save from needless deaths these children who form the very foundation of society.

Health authorities for years back have impressed upon the medical and lay minds the necessity of the early administration of antitoxin to achieve the best results, and they can hope to achieve this reduction in the mortality rate only by constantly emphasizing on every occasion the necessity of calling the physician early in the sickness, laying particular stress upon the fact that the mortality of diphtheria, when treated with sufficient dosage of antitoxin, given within twenty-four hours of onset, is relatively nil.

In some instances it was noted that physicians waited for a laboratory report from their cultures before administering antitoxin. This is, of course, a mistake, and the dictum that a person needing a culture should have antitoxin administered at the time of taking the culture is one which should be reiterated until the procedure is generally adopted by the entire medical profession.

One other factor which stands out demanding comment is that 7.6 per cent of the deaths occurred in "unrecognized" cases. Here, indeed, is a sad state of affairs, for with the numerous laboratories scattered throughout the state there is no need for diphtheria being unrecognized. The State Department of Health, through its bacteriological laboratory, is ready to examine all cultures which may be sent in to them, and will on all positive cultures telephone or telegraph, at its own expense, the report to the physicians who have sent in the culture. Surely, with this free service of our laboratories, the free distribution of antitoxin and Schick material for detection of the nonimmuned, and the toxin-antitoxin mixtures of immunization, we feel that we have some right to expect that these facilities will be used to effect a diminution of the morbidity rate as well as the mortality rate.

An alarming percentage of 11.8 of our cases were found moribund upon visitation by the physician. Here again is evidence for the necessity of awakening people, through educational methods, to their responsibility to their children.

Another source of deaths which the investigation showed in larger proportion than is generally recorded was that of sudden death, which was stated to have occurred in 5.2 per cent of the cases. In many instances, lack of nursing care was the responsible factor. Parents, ignorant even of the fundamental principles of nursing, were entrusted with the care of their children, allowing them to get up out of bed too early, or, through a mistaken idea of kindness, gave unsuitable food, which caused grave gastric disturbances resulting in vomiting, with its associate muscular strain and proving, in these instances, too much for the weakened cardiac muscles; and collapse, with death, resulted.

Another factor in the sudden death group appeared to be the repeated attempts at intubation where, for some reason, the tube was either not properly introduced or else expelled.

Antitoxin. The dosage of antitoxin was extremely varied in amount, the number of doses given, and the interval between dosage. In twenty-nine instances, it was found that less than 3,000 units were administered. The amount increased from this to a point where a young child of three years received 225,000 units. The usual doses, however, seem to have been from 6,000 to 9,000 units. The number of doses varied from one to several on consecutive days, and in a few instances it was administered every four hours until death occurred. In one instance 80,000 units were given in this manner.

One striking feature was present—in no instance did we find antitoxin given intravenously. In the early days of the use of serums there was a great deal of hesitancy in introducing directly into the blood stream foreign bodies, for fear of untoward effect, but with added years of experience it is now known that this procedure is not only feasible but that results are more rapid, more certain, and a much smaller amount of serum is required. It is most earnestly recommended that this procedure be used in those cases which are seen late in the disease.

With such a lack of uniformity in the use of antitoxin, it seems as if the medical profession should be informed, from authoritative sources, as to the most approved method of its use, its dangers through misuse, either in dosage or method of administration.

Particular stress should be laid, in the instruction of medical students, upon the necessity of properly administering antitoxin, thus avoiding the chances for anaphylactic reaction and impressing upon them the need of early and sufficient treatment.

Full realization of these facts can only lead to the conclusion that the progress toward eradication of diphtheria has fallen short of what reasonably might have been expected.

GRAHAM VANCE.

Graham Vance, third son of Dr. and Mrs. W. K. Vance, of Bristol, died at the Naval Aviation Base, Eastleigh, England, on October 27. The young man was brought to his home and was buried at Bristol recently.

Young Vance was among the many splendid young men who answered his country's call early in the season of enlistment, and had been continuously in service to the minute of his death. He was given a soldier's burial, six of his friends who were also soldiers or sailors bearing his body to its last resting place, with the proud flag of his homeland enfolding his casket.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

MARCH, 1919

EDITORIALS

THE EIGHTY-SIXTH ANNUAL MEETING.

The eighty-sixth annual meeting of the Tennessee State Medical Association will be held in Nashville on April 8, 9 and 10, 1919.

The meeting will be called to order at 10 o'clock Tuesday morning, April 8, by Dr. J. F. Gallagher, Chairman of the Committee of Arrangements of the Nashville Academy of Medicine and Davidson County Medical Society. After the usual preliminaries the President, Dr. Richmond McKinney, of Memphis, will assume the chair, and the scientific program will be entered into at once, the presidential address being the first number on the regular program.

The Section on Ophthalmology and Otolaryngology, of which Dr. Hilliard Wood is chairman, will convene at 2 o'clock on Tuesday.

All meetings will be held in the Y. M. C. A. building, corner Seventh Avenue, North, and Union Street. While the arrangement of this building is not ideal, it's the best we can do in Nashville.

Dr. Robert C. Lynch, of New Orleans, one of the most distinguished specialists in this country, will be the guest of the Association and will deliver an address on "Suspension Laryngoscopy" on Wednesday morning.

The House of Delegates will meet at 1:30 p. m. Tuesday. All matters to be brought before the House of Delegates should be ready for proper presentation in order that unnecessary delay may be avoided.

Hotel reservations should be made in advance. The leading Nashville hotels are the Tulane, the Hermitage, the Maxwell and the Savoy. It should also be remembered that traffic is heavy and Pullman accommodations hard to secure unless reserved several days in advance.

You will be looked for at Nashville on Tuesday morning, April 8.

STATE BOARD OF HEALTH LABORATORY.

The State Board of Health is asking the General Assembly for considerable increases in appropriations in order that the work of the Board may be strengthened and extended. Among others, the appropriation for the laboratory is to be made larger, if the wishes of the Board of Health are met.

The real needs of the state demand that the State Board of Health should have three laboratory stations—one at Nashville, one at Memphis, and one at Knoxville. It is not thought, however, that enough money can be had to establish the two additional stations at Memphis and Knoxville, and so the effort is to be made to strengthen and widen the scope of the service of the present laboratory, which can easily be made to serve more territory than is now being served.

During the year 1918 there were examined in the laboratory 1,270 specimens for the diagnosis of tuberculosis, 216 for diphtheria, 687 for typhoid, 252 for cerbrospinal meningitis, 67 for malaria, 294 for hookworm disease, 318 for rabies, and 67 for diseases of domestic animals transmissible to man, and 105 water examinations were made. In addition to the above routine examinations some work was done on the bacteriology of influenza and in connection with certain outbreaks of diphtheria, together with guinea pig and rabbit inoculations in work on diphtheria and rabies. Anti-rabic treatment was administered in a number of cases, and 18,823 anti-typhoid vaccine, made in the laboratory, were distributed for use by the field men of the State Board of Health in state institutions and in communities where typhoid was unduly prevalent.

The appropriation for laboratory purposes for the biennial period 1917-18 was $6,000, out of which all salaries had to be paid, all equipment and supplies bought. The budget for 1919-20 calls for $15,340, with which sum the

State Board of Health hopes to be able to greatly extend its laboratory work.

Numerous complaints have been received from physicians claiming to have forwarded specimens to the laboratory for examination from which they have had no reports. Most of these complaints are due to he carelessness of the complainants and their disregard for strict postal regulations concerning the character of containers to be used in sending laboratory specimens through the mails. Many specimens mailed in bottles, paper boxes, tin boxes or wooden boxes never reach the laboratory because such containers are illegal and are "junked" by the postal authorities. The law governing the transmissal of pathologic specimens imposes a penalty upon the receiver of an illegally contained specimen, as well as upon the sender. Heretofore it has been possible to secure containers from municipal and county health officers, but if the State Board of Health can secure adequate appropriations it is intended, in the future, to supply containers to physicians upon demand.

It is to be hoped that the physicians of the state will give their active support to the efforts of the State Board of Health to improve its laboratory service, and that they will avail themselves of the opportunities for better diagnosis as they may be offered through this service.

THE A. M. A. AT ATLANTIC CITY.

Great preparations are being made for a great meeting of the American Medical Association at Atlantic City in June. This is to be the "Victory Session," and is to be under the patronage of the War Department. Representatives of many foreign nations will be there, and a very unusual program is being arranged.

As we understand, the work of the various sections will not conform to the usual, but a part of the program of each section will be given over to the discussion of subjects made prominent by reason of the experiences of war service. The number of papers will be limited in each section to twenty-one.

A part of the program in the general sessions will be given over to scientific discussions, but an important part of the program for these meetings will be devoted to subjects presented for the benefit of lay audiences as well as for medical audiences.

It is hoped to have the President of the United States, the Secretary of War and the Secretary of the Navy present to deliver addresses.

If the plans for the Atlantic City meeting develop as it is hoped to have them developed, this is going to be one of the really great meetings of the American Medical Association. Tennessee should be well represented, and those who intend to go should not wait until the last minute to perfect their arrangements for going, nor should they neglect to reserve accommodations a long time in advance. The Atlantic City meetings are always well attended, and it is never easy to find a place in the hotels unless reservations have been made ahead of time.

THE WATAUGA SANITARIUM.

It is a matter for congratulation that the state of Tennessee is to continue to receive the benefits of the service of the Watauga Sanitarium for Tuberculosis at Ridgetop, an institution which was established and most successfully conducted by the late Dr. Chas. A. Robertson, whose untimely death occurred on January 26.

Insofar as we are advised, the Watauga Sanitarium is the only institution of its kind in the state. There are several tuberculosis hospitals owned and operated by counties and municipalities, but the field for service to individuals who prefer not to enter publicly-owned sanitaria is very poorly covered in this state. The Watauga Sanitarium, therefore, conducted on the highest possible plane of ethical and scientific service, fills a very real need.

Dr. Charles A. Robertson, a very able man and a most versatile physician, established this institution because of his overwhelming interest in the study of tuberculosis and because of his very sincere desire to make his life count for the most possible to his fellow man. The success with which his efforts were rewarded was gratifying, indeed, to him and to those of his confidants who were familiar with his hopes and his aspirations for the institution which he had started on a career of usefulness of an ever-increasing scope. It is greatly to be regretted that Dr. Robertson's life could not be spared to direct the work of his choice until his hopes had been more fully realized. It is good to know, however, that there are willing hands to take up the work where Robertson laid it down, and to know that those who need the services of a private sanitarium, located in Tennessee, can find what they need in the Watauga Sanitarium.

PERK UP!

A large bunch of you are behind on your dues, behind in your interest in our Association, behind in your plain duty to organized medicine in Tennessee. For goodness sake, **perk up!**

We are going to have a meeting in Nashville, Tenn., on April 8, 9, and 10. And it's going to be a good one, too. You can make it better if you will just perk up a little and get in the game. Pay your dues, get your secretary to send in your name, talk a little about the eighty-sixth annual meeting to every fellow you meet, tell everybody that you are going to leave home Monday, April 7, to go to Nashville and that you are going to be gone four or five days, and then do just that thing.

If you just won't do, we are going to have a good meeting without you, and you will be sorry that you were not in the push.

The program is not going to be the old-time one-rail proposition, but we are going to "throw her open" and "let her roll." There are going to be some mighty informal doings. Part of what is going to be can be seen put down on the "Preliminary Program," which appears in this Journal; part of what is going to be can be discovered only by being on hand when the time comes.

For goodness sake, **perk up!** Let somebody know you are living, and living for something else than just to grind out the daily grind.

The bell will tap at 10 o'clock Tuesday morning, April 10. If you are not on hand, we'll all know you are dead forever.

PERK UP!

DELEGATES AND ALTERNATES.

Delegates and alternates from the component county societies should have been chosen before now for the annual meeting of the Tennessee State Medical Association. Any society which has neglected this duty should attend to it at once.

A list of accredited delegates and alternates should be sent by each County Secretary to the State Association Secretary at least one week before the time for the Nashville meeting.

STILL UNREPORTED.

There are several county societies which have had no reports sent in for 1918, and a relatively large number have had only partial reports forwarded. It should be remembered that the names of all members not reported before April 1, 1919, are automatically dropped from the membership roll.

THE PROGRAM.

A program for the State Medical Association is the hardest thing to start and the hardest thing to stop of which anything is known in these immediate parts. For a while it looked as though we would have no program at all for this year's meeting. At this writing it looks as though we won't have anything but program. Within four days some thirty-five letters were received by the Secretary, giving titles of papers to be read at the Nashville meeting. The consequence is that we have a long list of papers and a very varied assortment of subjects. Because of the overwhelming last-hour response, it has been necessary to change the plans which were had in mind. It is to be hoped that every man who is on the program will answer promptly when his paper is called, and that he will confine himself strictly to the twenty minutes allotted him. It is also to be hoped that all who wish to discuss papers will know about what they want to say when they get upon the floor, and that they will confine themselves to remarks about the subject in hand and get through within the time allowed for discussion.

Every year the poor Secretary catches hallelujah because some fellow does not get to read his paper at eleven o'clock on the second day of the meeting, when the biggest crowd is expected to be on hand. Well, now, it just is not possible to give some fifty men the same hour without bringing about some confusion. if not bloodshed. The truth is that the program is always arranged with the view of giving the best possible effect, as the program committee thinks, and a most earnest effort is made to get the best possible hearing for every paper. Of course, the men who wait until the program has gone to press don't get on, or if they do they get on at the tail end. One man complains that he was crowded out last year when, as a matter of fact, the committee, thinking his paper would be of very great interest to all members, tried to put him in the place where it was thought would get for that man the best hearing of the entire meeting.

If members who discuss papers would confine their remarks strictly to the subjects supposed to be under discussion, much valuable time would be saved. If members would eat breakfast within two hours of the time they eat when at home, they would get into the hall considerably sooner, and the program would get under way much earlier each morning. If presiding officers would use the gavel vigorously when a man's time is up, the program would get along faster—but if presiding officers do that thing they get "cussed." If members would get into the hall when the time comes to start, more papers would be read. If the secretary had some several Aladdin's lamps and were himself an omnipresent, quadridextrous, centepedinous, hydra-headed he-superman, instead of a poor sort as he is, then things would be made to suit everybody, nobody would be "stuck," there would be no sort of ground for any sort of kick, and then old Gabriel would grease up his trombone for the purpose of sounding the last great blast to summon all men to the last great gathering of men and angels.

Since our observation and experience, extending over some several years, leads us to believe that mighty few, if any, of the above "ifs" will be realized, we confidently expect to have some drag in the program again this year, and more confidently expect to get the usual lambastings which come to all secretaries, which same will slide off our hide even as water from a duck's back.

After saying all of which, allow us to state that we are going to have a good program.

PRELIMINARY PROGRAM FOR EIGHTY-SIXTH ANNUAL MEETING OF TENNESSEE STATE MEDICAL ASSOCIATION AT NASHVILLE, APRIL 8, 9, 10, 1919.

"Better Diagnoses and Better Case Records," by Richmond McKinney, M. D., Memphis, President Tennessee State Medical Association.

"The Present Status of Ornamented Evening Dress Medicine," by Frank A. Jones, M. D., Memphis.

"Suspension Laryngoscopy and Its Relation to Modern Surgery of the Larynx, Upper Esophagus and Bronchi," by Robert C. Lynch, M. D., New Orleans.

"Notes on the Recognition of Certain Renal Lesions by Pyelography," by Sergeant F. Martin, M. D., Dyersburg.

"The Necessity for Making Blood Pressure Examinations at Stated Intervals of Men Over Sixty Years of Age," by Duncan Eve, M. D., Nashville.

"Talipes," by J. P. Baird, Dyersburg.

"Influenza in Pregnant Women," by J. C. Ayres, M. D., Memphis.

"Flagellate Diarrhea—A Chronic Dysentery Caused by the Cercomonas Hominis," by Jack Witherspoon, M. D., Nashville.

"A Few Principles in the Treatment of Valvular Diseases of the Heart," by Bryce W. Fontaine, M. D., Memphis.

"Hemorrhoids, With Special Reference to Treatment," by I. G. Duncan, M. D., Memphis.

"Perforations of the Gastro-intestinal Tract," by C. N. Cowden, M. D., Nashville.

"Medical Books and Doctors of the Olden Time—A Retrospect," by I. A. McSwain, M. D., Paris.

"Paranoia," by W. Scott Farmer, M. D., Nashville.

"A Paper," by R. C. Derivaux, M. D., Past Assistant Surgeon, U. S. P. H. Service.

"Intestinal Obstruction," by Robert Caldwell, M. D., Nashville.

A paper by J. Howard King, M. D., Nashville.

A paper by W. A. Oughterson, M. D., Nashville.

"Vertigo in Cerebral Conditions," by R. C. Bunting, M. D., Memphis.

"Lacerations of the Cervix and Perineum," by W. T. Pride, M. D., Memphis.

"The Necessity for Arousing a More Intense Interest in the Early Diagnosis and Treatment of Pyorrhea," by P. R. Carroll, M. D., Henderson.

"Medicine and Surgery in the Army and Navy." One hour of informal discussions by our members who have returned from military service.

"The Work of the Examining Boards, and What Their Work Revealed." One hour of informal discussions by our members who served on these boards.

"The Control of Venereal Diseases." Informal discussions by members.

"Some of the Surgical Lessons of the War," by W. D. Haggard, M. D., Nashville.

"The Infantile Uterus," by H. L. Fancher, M. D., Chattanooga.

"Some Practical Procedures Used in the Army That Are Applicable to Civil Work," by L. E. Burch, M. D., Nashville.

"A Plea for Better Rural Sanitation and Some Preventive Measures," by J. T. Moore, M. D., Algood.

"Acriflavine—Its Clinical Application in Gonorrhea and Allied Conditions," by Perry Bromberg, M. D., and William Litterer, M. D., Nashville.

"Achylia Gastrica," by Otis S. Warr, M. D., Memphis.

"The Use and Abuse of the Caesarian Section," by Percy W. Toombs, M. D., Nashville.

"Experiences of a Medical Officer Near the Front Lines in France," by Battle Malone, M. D., Memphis.

"Some Observations on the Selective Service Examinations," by Paul DeWitt, M. D., Nashville.

"The Puzzle of the Gastric Ulcer," by W. N. Lynn, M. D., Knoxville.

"The Infantile Uterus," by H. L. Fancher, M. D., Chattanooga.

"The Practical Use of Blood Pressure," by C. D. Robbins, M. D., Gordonsville.

"Surgery of the Gall Bladder and Biliary Ducts," by John B. Haskins, M. D., Chattanooga.

"Rural Health Work in Tennessee," by E. L. Bishop, M. D., Nashville.

"Fracture of the Pelvis—Reports of Cases" (illustrated), by E. T. Newell, M. D., Chattanooga.

"The Fate of the Bone Graft: A Clinical Study," by Willis C. Campbell, M. D., Memphis.

"The Man Who Didn't Go—By One of Them," by Hermon Hawkins, M. D., Jackson.

"Congenital Diverticulae of the Intestines: Report of a Case of Tumor Growing from the Tip of an Apparent Congenital Diverticulum of the Lower Sigmoid," by W. T. Black, M. D., Memphis.

"Effects of Retrodisplacements on the Uterine Appendages and the Appendix," by W. D. Sumpter, M. D., Nashville.

"Obstetrics and the Country Doctor," by M. A. Blanton, M. D., Baileyton.

"Fluphobia," by Owen H. Williams, M. D., Savannah.

"Blastomycosis," by J. M. King, M. D., Nashville.

"The Management of Communicable Diseases," by Oliver W. Hill, M. D., Knoxville.

"A Late Treatment for Empyema," M. M. Copenhaver, M. D., Knoxville.

"Chronic Complaints and Why We Often Fail to Benefit Them," by H. W. Qualls, M. D., Union City.

"The Borderline Mental States," by A. E. Douglas, M. D., Nashville.

SECTION OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

Chairman, Hilliard Wood, M. D., Nashville.

Vice-Chairman, Lewis M. Scott, M. D., Jellico.

Secretary, Louis Levy, M. D., Memphis.

This section will meet at 2 p. m., Tuesday, April 8. Dinner at 6 o'clock at the Hotel Tulane as guests of the Nashville Society of Ophthalmology and Oto-Laryngology.

Clinics at St. Thomas Hospital Wednesday afteroon, conducted by the members of the Nashville Society of Ophthalmology and Oto-Laryngology.

PROGRAM.

1. "Eye Injuries in the Army," by Walter Dotson, M. D., Lebanon. To open discussion: J. P. Crawford, M. D., Nashville.

2. "Injuries of the Cornea," by W. W. Hill, M. D., Harriman.

3. "Secondary Cataract and Methods of Treatment," by G. M. Peavler, M. D., Bristol.

4. "An Unusually Difficult Cataract Extraction," by Robert Fagin, M. D., Memphis. To open discussion: G. C. Savage, M. D., Nashville.

5. "Keratitis," by Octavius Dulaney, M. D., Dyersburg. To open discussion: M. M. Cullom, M. D., Nashville.

6. "Quinine Amblyopia. Report of Case," by C. J. Broyles, M. D., Johnson City. To open discussion; G. C. Savage, M. D., Nashville.

7. "Nasal Catarrh," by Henry E. Christenberry, M. D., Knoxville.

8. "Some Ocular Complications of Diseases of the Nose and Accessory Sinuses," by N. E. Hartsook, M. D., Johnson City. To open discussion: Geo. H. Price, M. D., Nashville.

9. "Further Observations of Sluder Technique in Tonsil Work," by P. M. Farrington, M. D., Memphis.

10. "Pathological Conditions of the Nose and Naso-Pharynx as a Predisposing Cause of Middle Ear Diseases," by Lewis M. Scott, M. D., Jellico. To open discussion: Jere Caldwell, M. D., Nashville.

11. "Case Reports on Mastoiditis Following Influenza During Our Present Epidemic," by Fontaine B. Moore, M. D., Memphis. To open discussion: J. B. Blue, M. D., Memphis.

12. "A Practical Demonstration of the Vestibular Tests from an Otologist's Standpoint," by Louis Levy, M. D., Memphis.

13. "Ocular Manifestations of Focal Infection," by M. M. Cullom, M. D., Nashville. To open discussion: Octavius Dulaney, M. D., Dyersburg.

14. "Acute Labyrinthitis Complicating Acute Purulent Otitis Media. Report of Case," by J. B. Blue, M. D., Memphis. To open discussion: Richmond McKinney, M. D., Memphis; J. Leslie Bryan, M. D., Nashville.

15. Special address before entire Association, 11 a. m. Wednesday: "Suspension Laryngoscopy and Its Relation to Modern Surgery of the Larynx, Upper Esophagus and Bronchi," by Robert C. Lynch, M. D., New Orleans.

NOTES AND COMMENT

Dr. Owsley Manier, after a year's service with the Vanderbilt Hospit Unit in France, has received honorable discharge from the Medical Corps of the Army and has resumed practice in Nashville.

Major R. W. Billington, M. C., U. S. A., pital Unit, has returned from a year's service in France, and has been assigned to hospital work in this country.

Dr. John M. Lee has been honorably discharged from the Medical Corps of the Army and has re-entered private practice in Nashville. Dr. Lee won promotion by his splendid service, retiring with the rank of Captain.

Dr. Albert W. Harris, Nashville, has resumed his practice after eighteen months' service in France and in American camp hospitals, his most recent assignment having been at Camp Gordon, after his return from France in February.

Major W. H. Witt, of the Vanderbilt Hospital Unit, has returned from a year's service in France, and has re-entered private practice in Nashville.

Are you ready to start? Leave home Monday, April 7, reach Nashville Monday night or Tuesday, April 8. Leave Nashville Thursday, April 10, if you won't stay longer, and get back home for business Friday or Saturday. It'll do you good and help you, too.

The program will not be too long; there will be plenty of time to see all your friends, and everybody can have a good time.

The Blount County Medical Society is a live body. There are now some twenty members enrolled, meetings are held every Tuesday evening, and no eligible man is allowed to go without a pressing invitation to become a member of the Society. The secretary prepares a six months program and sends timely notices to all members. Dr. C. C. Vincent is president, Dr. J. M. Waters vice-president, and Dr. F. A. Zoller secretary.

Dr. B. J. High, Elmwood, is one county secretary who gets his reports in on time every time. He sent in his list of members in December, and on it we find one more name than on the 1918 list.

There are several counties from which no report has yet been received. There may be some real excuse for this, but we don't know what it can be. Every man in the Association knows when dues are due and every secretary has been communicated with. What are they waiting on?

Dr. W. G. Ruble, Morristown, has returned to his home to again take up private practice, after several months' service in the Medical Corps of the Army, from which he was recently given honorable discharge.

This is no time for foolish bickerings. Leave all that damfoolishness to the Bolsheviki. Pay your dues and get in line with all the rest of the best men in the state in the Tennessee State Medical Association.

There will be a sitting with your feet under the table one night during the three days' session. And the program won't be bad, either.

There'll be fellows there that you haven't seen for a long time who want to see you and talk over the old things that used to interest you together. Come on over and see them.

Somebody strike a match or ring a bell or something in Knoxville and Chattanooga! They are all dead over there, or they have forgotten how to answer letters and things. One paper on the program from Chattanooga; nary a cheep out of Knoxville.

If you are dead, say so. and stay at home. If you are a live one, loosen up and buy yourself a ticket to Nashville and use it in time to get here on Tuesday morning, April 8.

Has anybody heard from Clarksville, Tenn., in the last few months? Or Cleveland? Or Tullahoma? Or Alamo? Or Somerville? Or Winchester? Or Trenton? Or Greeneville? Or Morristown? Or Centreville? Or Dayton? Or Sevierville? Or McMinnville? If anybody knows how to get into communication with any of these centers, please be kind enough to describe the necessary maneuvers to the State Secretary. He wants to hear from all of them.

Dr. T. B. Hughes, formerly of Greene County, has located at Cleveland and is engaged in general practice.

Dr. J. F. Lane, Greeneville, has again entered private practice, after having received honorable discharge from the Army Medical Corps.

Dr. T. D. Cloyd, of Greene County, has returned to his home and has taken up his practice, after a term of military service.

Dr. William Bailey has re-entered private practice at his home at Greeneville, having received honorable discharge from the Medical Corps of the Army.

Dr. H. Quigg Fletcher, Chattanooga, writes the Journal from Baltimore, where he is taking in the latest things at Johns Hopkins.

The Putnam County Medical Society has a committee conferring with the Putnam County School Board and the Cookeville Board of Education with a view of having steps taken for the prevention of communicable diseases through the schools. The plan proposed embraces semi-annual inspection of all children and teachers in the schools.

The Hamblen County Medical Society has elected 1919 officers as follows: President, Dr. C. T. Carroll, Morristown; Vice-President, Dr. J. W. Pierce; Secretary, Dr. J. F. Campbell; Delegate, Dr. F. F. Painter; Alternate, Dr. G. P. Bingham.

Dr. Jere Caldwell, Nashville, has received honorable discharge from the Army Medical Corps, and has taken up his practice in ophthalmology.

Dr. J. O. Walker, Franklin, after a period of service in the Medical Corps of the Navy, has received honorable discharge and is back at his work.

The Greene County Medical Society elected Dr. Wm. Bright, Chucky, President; Dr. R. O. Huffaker, Greeneville, Vice-President; Dr. M. A. Blanton, Baileyton, Secretary. Dr. Blanton is the delegate, and Dr. J. B. Bell, the alternate delegate, to the Nashville meeting.

Dr. McPheeters Glasgow, Nashville, having been honorably discharged from the Medical Corps, U. S. Army, has reopened his office in the Jackson Building.

Doctors returning from military service are experiencing great difficulty in securing suitable offices in some of our busy towns and cities.

Don't forget to file your birth certificates. Put the little ones on record, for their sake.

When you sign a death certificate, give the facts relative to the cause of death. If the cause of death is a meningitis, state the kind of meningitis—whether epidemic, cerebrospinal, tubercular, pneumococcus, or otherwise.

If some of our good doctors who thoughtlessly have authorized undertakers or registrars to sign death certificates for them could see the certificates after they are so signed, they would promptly recall the authorization.

Spring is cleaning up the face of the earth. You might clean up your office and its surroundings. The Salvation Army will take all the accumulated papers and use them to good advantage.

Dr. R. L. Gallaher, Careyville, has resumed his practice, after some months of service in the Army Medical Corps.

Dr. Casa Collier, Memphis, has received honorable discharge from the Army, and has taken up his practice again.

Dr. Leopold Shumacker, Chattanooga, has resumed his work, after a period of service in the Army Medical Corps.

JACKSON COUNTY MEDICAL SOCIETY.

The Jackson County Medical Society met at Gainesboro on March 3, 1919, paid dues, elected officers, including a delegate and an alternate delegate to the State Association, discussed and "cussed" the flu, had a fine time, and adjourned to meet again on March 17. Dr. R. C. Gaw will present a paper at the next meeting on "Influenza: Complications and Treatment."

Dr. C. E. Reeves, secretary, sends in the above and includes his check for twenty-six dollars to pay membership dues for nine members and medical defense assessments for all but one member, who is not in active practice. Every society in the state should follow the lead of the Jackson County organization, and pay medical defense assessments for every member.

THE USE OF YEAST IN GASTROENTERITIS.

Among the diseases in which yeast was used successfully by Hawk and his co-workers (Jr. A. M. A., LXIX, October 13, 1917, pp. 1243-1247) is gastro-intestinal catarrh. This was rather to be expected since brewers' yeast was early used with success in various diseases of the gastro-intestinal tract. The value of Hawk's article is that he showed that the unavailable brewers' yeast may be replaced by the uniform and readily obtainable compressed yeast.

Among the diseases in which various forms of yeast have been used with success is gastroenteritis of infants. There is every reason to believe that these will react to compressed yeast at least as readily as they did to yeast in other forms. Aside from its freshness, as in the cake supplied by the Fleischmann Company, compressed yeast may be readily gauged as to dose, in itself possesses nutritive properties, and contains vitamins. Autolyzed yeast, when given by Hess to babies, produced a rise in the weight curve. (Am. J. Dis. Children, Vol. XIII, No. 1, January, 1917, pp. 98-109.)

Yeast was used in the treatment of gastroenteritis of adults and infants by Drs. Thierecelin and Chevrey (Rev. de Therap. Med.-chi., 1899, pp. 797-803), with marked beneficial results. They gave a suspension of yeast to children by rectum, two or three times a day after the rectum had been washed out. The children were held by the nurse in such a position that they could not expel the suspension. Food was withheld until the fever fell.

Cures of chronic gastroenteritis were treated the same way. In one case of dysenteric diarrhoea (in an adult) that had resisted other treatment for more than a month, the remedy was used with success within forty-eight hours after first administration. The adult cases were given yeast by mouth as well as by rectum. (One case in an adult was a case of muco-membranous enteritis, which improved very much under yeast treatment.)

It stands to reason that yeast will exert a greater influence on the gastro-intestinal tract when it is given by mouth than when it is given by rectum alone. Yeast also has a beneficial effect on infants with gastroenteritis when it is given by mouth. This is shown to advantage in the results obtained by Sittler in the treatment of infants with gastroenteritis with yeast by mouth. (Munch. med. Wochenschrift, 1906, No. 36, pp. 1761-1762.) Sittler's plan was to cut out milk from the diet, to substitute weak tea or albumin water and gradually to work up to heavier preparations. The yeast was given in sweetened water. When necessary, the bowels and the stomach were irrigated and other medicines were employed. Under yeast treatment the odor of the stools became less objectionable, and the number of stools was diminished. Vomiting soon ceased. In some cases a cure was obtained when yeast alone was used. In other cases yeast had a beneficial effect when calomel, bismuth, or irrigation had not produced satisfactory results. The weakly acid reaction of the stools favors the action of the yeast. In one case only did the diarrhea become worse under yeast treatment. The treatment can be satisfactorily combined with the administration of bismuth or tannalbin.

In a more recent publication Sittler, investigating the stools of infants, has determined that yeast with lactic acid and lactic acid bacilli, favors the growth of the bacillus bifidus (a favorable organism) in the stools. He states that treatment with yeast, lactic acid, and lactic acid bacilli may be combined to advantage with treatment with the astringents.

THE TREATMENT OF CONSTIPATION, WITH REMARKS ON THE YEAST TREATMENT OF SOME GASTRO-INTESTINAL DISORDERS.

Chronic constipation is such a common affection, and is seen as a secondary condition in so many derangements of the gastro-intestinal tract, and the general effect on it of medication alone is so unsatisfactory, that a host of remedies have been employed for its relief rather than, let us say, for its cure. Many of the drugs so employed—for instance, belladonna, mercury, and to some extent, physostigmine—have other, more important, therapeutic indications which render them objectionable for the relief of constipation over extended periods of time. Then again, in the use of drugs or other ingested agents for the relief of constipation, many of these must be increased in dosage in the individual case to make them effective, an objection that can be obviated to a certain extent by change of drug. Notwithstanding the numerous agents that have been used for its relief, constipation, generally speaking, has remained the bugbear of medical therapeutics. As will appear, however, surgery as a routine measure in the treatment of constipation is to be deprecated.

Numerous physical agents—i. e., massage, exercise, proper diet, regular habits, etc.—have been recommended for the relief of constipation, and with some degree of success in the use of them. A certain number of individuals find the use of these measures somewhat irksome to carry out, or at least inconvenient. At all events, use of them must be frequently supplemented by medicinal agents, which should work as harmlessly and as efficaciously as possible.

Of these agents, cascara sagrada is an old standby; in addition to it, or occasionally as a substitute for it may be used one of the newer laxatives—phenolphthalein, agar (to increase the volume of the feces) and (a medicinal agent used in recent years) liquid petrolatum. Another agent fully as efficacious—if not more so—than those mentioned above is the common household article, compressed yeast.

It is to be remembered in this connection that every case of chronic constipation should be thoroughly studied from the standpoint of the gastro-enterologist and in some cases even of the Roentgenologist—in fact, an x-ray picture of the abdomen is extremely important when there is reason to believe that the constipation is dependent on the existence of kinks or bands. As far as this is concerned, we should not forget that in spite of the recent claim of the surgeons that the field of constipation lies well within their province, the vast majority of the total cases of chronic constipation can be satisfactorily treated by the medical man, especially if he avails himself of well-approved physical and medical measures.

It is well to quote in this connection the following words of Sir William Osler ("Principles and Practices of Medicine," 1918):

"Captivated by the theories of Metschnikoff, we have been for some years on the crest of a colonic wave, and intestinal toxemia has been held responsible for many of the worst of the ills that flesh is heir to, more particularly arterio-sclerosis and ol dage. The seniles and preseniles of two continents have been taking sour milk and lacto-bacillary compounds, to the great benefit of the manufacturing chemists! But the fad is passing, not, I hope, to be replaced by one even more serious, in which operation is advised for every case of severe intestinal stasis."

The use of compressed yeast in the treatment of chronic constipation has met with marked success in the hands of Hawk and other physicians (see article by them in Jr. A. M. A., Vol. LXIX, No. 15, October 13, 1917, pp. 1243-1247). In fact, in ten cases of constipation in which they used yeast, nine were improved or cured. The tenth case was associated with high intestinal stasis and subacute appendicitis, so that this was hardly a fair case in which to expect a curative action of yeast. In one case the movements became so free that it was necessary to discontinue the use of the therapeutic agent. The cases of constipation varied in duration from a few weeks to several years. Fleischmann's Compressed Yeast was the agent employed. One-half to one cake of yeast was administered about three times a day, usually before meals. In many cases the bowel movements became regular after only a few days of treatment, sometimes immediately.

The use of yeast in the treatment of constipation was by no means new when Hawk and his co-workers undertook their researches on its action. Gunzberg (Munchener med. Wochenschrift, July 7, 1896, pp. 631-632) recommended small doses of bakers' yeast in the treatment of enteroptosis, stating that one of its good effects was that it enabled the victims of the disease to take on the necessary fat. Aaron ("Diseases of the Digestive Organs," etc., first edition, 1915; second edition, 1918), in his chapter on constipation writes thus about the treatment of atonic constipation: "Good results are reported from yeast taken once or twice a day, according to the number of bowel movements caused."

The full action of yeast on the gastro-intestinal tract is well worth determining. According to Hawk and his co-workers, there is associated with all actions of yeast a general improvement of the patient's general condition. With this accords the statement of Gunzburg, mentioned above, that the patient takes on fat. It is possible that the general increase in well-being may be associated with an increase in general tone, which in turn may affect peristalsis favorably, and bring about a daily evacuation, as a permanent condition. It is noteworthy in this connection that the chief use of yeast has been in connection with cases of atonic constipation. It, however, does not seem to be contraindicated in the spastic constipation of enteroptosis (see reference to Gunzburg above), which, according to Gunzburg, needs oil enemata for its relief.

Yeast has been successfully used in various gastro-intestinal conditions, including typhod fever, and the gastro-intestinal symptoms of influenza. The work of Hawk, already mentioned, includes that done on three cases of gastro-intestinal catarrh, in which these were treated with yeast, with good results. Favorable reports on the use of yeast in gastro-enteritis have long been known, the substance affecting especially favorably the gastro-enteritis of children (see article by Thiercelin and Chevrey, Revue de Therap. Medico-Chirugicale, 1899, pp. 797-803), to whom it may be given per rectum. On account of its vitamine content, yeast promises to be of mportance in infant feeding.

OHIO FINDS A BETTER WAY.

It has long been customary for physicians to oppose bills licensing followers of cults and sects. This attitude was taken originally in the hope of upholding the standards of medical practice, for the public good. In spite of opposition, however, sooner or later the various sects have secured the legislation thus desired. As a result of this attitude of physicians, the public has concluded that the opposition to the passage of sectarian laws is to prevent competition, in spite of the facts that the laws have never restrained the sectarian and that his competition has never been injurious to the physician. Much more serious has been the public belief that such bills were of interest only to physicians, and that so far as they affected the public health the medical profession would protect the interests of the people. The public has never felt any responsibility in the matter, while the medical profession has incurred unjustifiable criticism in its efforts to protect the public. Evidently physicians are beginning to see things in a clearer light. In the Ohio state legislature a bill has been introduced exempting Christian science practitioners from the educational requirements of the state law. When the bill came before the Public Health Committee of the legislature, the usual argument between the Christian scientists and the doctors was expected. Greatly to the surprise of the legislators, however, the chairman of the committee of the Ohio State Medical Association announced that the association would take no position in regard to this bill. He pointed out that the proposed measure would not in any way affect physicians, but that it was a menace to the public health in permitting unqualified and untrained persons to treat the sick. As this is a matter which concerns the health of the people of the state rather than the welfare of physicians, it is only right that it should be settled by the people themselves. The result of this unexpected statement was that the laymen on the legislative committee who had sat by indifferently, expecting that the rights of the public, so far as they were endangered by the measure, would as usual be protected by the physicians, suddenly began to sit up and take notice when they found the responsibility for protecting the health of their constituency placed squarely on their own shoulders. The bill is still before the legislature. The medical profession has performed its full duty in pointing out the danger to public health which would be involved in its passage. Whatever action is taken by the legislature will be with full knowledge of the consequences. This is the ideal attitude for physicians to take, as should have been recognized long ago. The responsibility of protecting the public from disease and of securing better health conditions belongs to the people. It is not the function of the medical profession to maintain lobbies or to endeavor to secure public health measures by political methods. The true function of the medical profession is to advise the people, to show them how to protect themselves. The doctor's mission is to be a teacher and not a political manipulator. The responsibility for public health conditions must rest with the people, and not with any special class or profession. The sooner these general principles are recognized, the better it will be for the medical profession and for public health advancement.—Jour. A. M. A., Feb. 15, 1919.

DIPHTHERIA CULTURES.

The Diagnosis Laboratory frequently receives for diagnosis cultures which at the time of receipt are in such condition as to preclude the possibility of an accurate bacteriological diagnosis of the patient's throat condition. Usually the difficulty is that the physician taking the culture has failed to notice the condition of the medium in the tube before it was inoculated. Cultures planted upon medium the surface of which has become dry, as shown by shrinkage and loss of gloss, as well as those on medium which is contaminated, as evidenced by colonies of mould, spots of discoloration, or partial liquification, will not show the presence of the diphtheria bacillus.

As it is impossible for the laboratory always to tell that a negative result of a culture examination is due to such conditions of the culture medium, physicians are particularly requested to note the appearance of the culture medium in all tubes they use, before taking them either from their office or a Department of Health Station.—Weekly Bulletin, N. Y. Department of Health.

WHY INFLUENZA BECAME EPIDEMIC: A REASONABLE EXPLANATION.

Knowing that influenza bacilli have been constantly with us, one wonders why it is that the disease should suddenly become epidemic. There are only two possible reasons: one that the population became less resistant, and the other, that the organism became more active (virulent). There being no apparent reason for the first (in New York City), we turn to the second for the explanation, which may be made as follows: It is known that a given bacterium often becomes totally incapable of pathogenic action after extended cultivation as a saphrophyte, but that, when taken directly from an animal sick of the disease it is most active in reproducing it in others. Conditions in animals, including man, resulting from either chilling, exhaustion, or insufficient feeding, are known to render them susceptible to infections to which they would otherwise be immune. This has been demonstrated in the laboratory by the chilling of pigeons, the exhaustion or the starvation of rats, etc., followed by the production of infectious processes from which the animals, normally, were exempt.

The conditions described here have been quite prevalent in European countries during the past two or three years, and armies in the field can hardly escape one or more of the injurious influences mentioned. The fact that men newly arrived in training camps are more susceptible to the prevailing epidemics, including influenza, has been almost universally explained upon the same basis, namely, that they were more easily chilled and exhausted by the conditions than those in training for some time.

Thus the influenza bacillus, after increasing in virulence by successfully producing disease in person so predisposed to infection, became capable of attacking many persons under ordinary conditions of life, and the present epidemic was the consequence.—From the Medical Times, December, 1918.

THE SUPPLY OF PRACTICAL NURSES.

What's the matter with the trained nurse? A wave of harsh and resentful criticism of the professional nurse seems to be sweeping over the country. In spite of a recognition of her splendid achievement in remaking hospital nursing, and of setting up high standards for private nursing; in spite of her magnificent and sacrificial service in the great war, she is not now viewed by large numbers of physicians and laymen as a ministerial angel of mercy or as an unmixed blessing. And when rebuked for these harsh expressions of disapproval, her unfeeling critics forcefully reply: "She is getting just what she deserves." What does it mean?

Is it because through high standards of admission to her schools, and long years of training before she is graduated she has chosen to make herself one of a small body of elect, a superior being? Is it because with the high cost of living and the scarcity of these chosen few she has, labor-union-like, demanded higher pay which only the well-to-do can give? Is it because in the home she is autocratic and unwilling to serve except in accordance with rules that she herself lays down, often demanding that service be rendered her, and causing discord in the household management at a time of crisis? Is it because in many hospitals she has gradually acquired more influence and power, until through her officials she speaks with authority even to the management, and dictatorially demands that before the interests of the medical staff are considered—sometimes even before the interests of the patients—there must be considered those of the nurses? Perhaps there is a little truth in each one of these reasons. Perhaps in this resentful criticism, narrow as it may be, the nurses are reaping what they have sown.

The war and the epidemic of influenza, with the consequent scarcity of nurses, have acutely drawn attention to the trained nurse and to the fact that she does not supply the suitable agent for ministering to the large body of the ill. The very poor may get free nursing in the hospitals, or, if lucky, at their homes through charity; the rich can, and will, pay whatever may be demanded, but the large mass of people of moderate means, too self-respecting to accept charity, not able to pay the high price of the expert nurse, must be deprived of her services or secure them at what to these people is often a ruinous sacrifice. More than this: a nurse of the highly trained type is not necessary or even desirable in the vast majority of cases of illness.

What are the requirements of a capable, skilled nurse, a physician's assistant? First, a right personality; without this she is hopeless. Then, intelligence, by which we mean a readiness of comprehension and understanding. Further, she should be of fair education, able to make herself understood, to write, to read, to reason. Lastly, she should have had training of sufficient length, probably one year, in a good hospital. This training should teach her the proper bed care of the patient—not his illness—and the methods of administering drugs and other remedial agents. She should learn enough of anatomy so that she will not, with her hypodermic syringe, enter the brachial artery; she should know enough of symptomatology to sense the possible significance of blood in the stool or of abdominal pain in typhoid; she should know enough pathology so that she will not wilfully violate the physician's orders against massaging a thrombosed femoral vein; she should have enough theoretical and practical training in bacteriology so that aseptic methods are to her, through her grasp of the reasons underlying them, methods to be scrupulously followed.

It goes without saying that other things—personality, native intelligence, etc.—being equal, the college or high school graduate will grasp these facts more readily and will, to this extent, be a more competent nurse. But such super-knowledge is not necessary. For ninety per cent of cases of illness, a skilled nurse with the characteristic just enumerated and with one year's training will answer fully as well and will fit into the average household better. She will be a true physician's assistant and will be a household helper not too proud to assist in the kitchen or even to help care for the baby. If this is true, why would not this capable woman of ordinary but sufficient ability and training be allowed to practice her profession licensed by the state and earning an honorable livelihood?

There is a place for the highly trained nurse, the registered nurse of today. From their ranks will come the superintendents of the training schools of various grades, the head nurses in our operating rooms, nurses for cases of special severity or complication, and the teachers of nurses. Let the training schools preserve their high ideals, though there may be question as to the necessity or wisdom of requiring even a high school degree for admission or a three years' course of training except in special cases or for postgraduate work. For her own good let the nurse be a little less autocratic, a little less dictatorial, a little more human. "Non ministrari sed ministrare" is as good a motto for a training school as for a woman's college. The trained nurse, from having been a luxury, has become a public necessity, like the telephone and railroad. Should not methods less like those of selfish private ownership give way to those wherein service to the sick public is the paramount aim?—Journal A. M. A., Jan. 25, 1919.

EFFECTS OF TYPHOID FEVER AND ANTI-TYPHOID IMMUNIZATION ON PULMONARY TUBERCULOSIS.

In the summer of 1917 a typhoid fever epidemic occurred at the Trudeau Sanitorium. Thirteen patients and two maids developed typhoid fever. Since the thirteen patients were all suffering from pulmonary tuberculosis in a more or less active form the opportunity was given to study the interacting effects, if there were any, between the two diseases. As soon as the presence of the epidemic was appreciated, antityphoid inoculation was performed on 124 tuberculosis patients at the sanatorium. The authors, Brown, Heise, Petroff and Wilson, report the results of their studies on these tuberculous patients who had typhoid fever or prophylactic inoculation, and the deductions to be drawn therefrom. Results are tabulated in five tables and detailed case reports of every typhoid fever patient are appended at the end of the study.

Among the more important conclusions worked out by the authors are the following:

Inactive pulmonary tuberculosis exerted no appreciable effects upon the course of the typhoid fever, but as the two deaths from typhoid fever occurred among those with active pulmonary tuberculosis, it appears possible that active pulmonary tuberculosis may influence the typhoid fever and render recovery less likely.

Typhoid fever does not influence inactive pulmonary tuberculosis and apparently also does not affect active pulmonary tuberculosis.

Antityphoid inoculations did not apparently influence the inactive pulmonary tuberculosis. No permanent untoward results followed in any case.

The immediate results of treatment in patients receiving anti-typhoid inoculations differed in no way from the immediate result obtained in two other years when such inoculations were not given.

Brown, Lawrason, Heis, F. H., Petroff, S. A., and Wilson, George E.: A Study of the Effects of Typhoid Fever and Antityphoid Immunization on Pulmonary Tuberculosis. History of a Typhoid Fever Epidemic at the Trudeau Sanatorium. American Review of Tuberculosis, February 1919, Vol. II, No. 12.

ULTIMATE RESULTS OF SANATORIUM TREATMENT.

Rutledge and Crouch analyze all the cases that have undergone treatment at the Modern Woodmen of America Sanatorium, and have been discharged for more than four years. These make up a total of 1,654 patients. Results are tabulated by years—that is, of cases discharged over eight years, between seven and eight years, between six and seven years, and so on.

The authors' more important conclusions are: The presence or absence of tubercle bacilli in the sputum is a great prognostic importance. Cases without bacilli, even though lung findings are much more extensive than in those with bacilli, give a much better prognosis.

Many cases in sanatoria, classified as having incipient tuberculosis, yet without bacilli, really do not have tuberculosis.

The number of cases being sent to their sanatorium, which, after a time, are found not to have tuberculosis, is increasing.

Most of their patients are far advanced with positive sputum and by far the greater proportion of deaths occur in this class.

Moderately advanced cases with bacilli in the sputum have an equal chance of living after being discharged from the sanatorium for five years.

Over one-half the deaths among those who have never had bacilli in the sputum are due to non-tuberculous causes.

Rutledge, J. A., and Crouch, J. B.: The Ultimate Results in 1,654 Cases of Tuberculosis Treated at the Modern Woodmen of America Sanatorium. American Review of Tuberculosis, February, 1919, Vol. II, No. 12.

A NEW BULK BACTERIN CONTAINER.

The doctor who uses bacterins in quantity will be interested ina new form of bulk container which has been perfected, holding a considerable quantity of the bacterin, 5 mil or 20 mil, and so arranged that any desired quantity of its contents may be withdrawn without danger of contaminating the rest. Various types have appeared, the chief objection to them all being that the perforable cork could be, and was, easily worked loose in frequent handling. This danger is at last eliminated in the excellent container recently announced by the Abbott Laboratories, of Chicago, Ill. The perforable rubber diaphragm is incorporated into the rubber cork, which is inserted tightly into the neck of the bottle. Over this is placed a metal cap, with a single opening through which the needle may be inserted, sealing automatically upon withdrawal, and this cap is then crimped down tightly around the collar of the bottle. It is impossible for it to work loose, and would present quite a problem if you were to try to remove it intentionally. Thus is the original sterllity of the contents permanently assured. Over all is placed another metal cap, nicely machined so that it fits snugly and present a pleasing appearance, besides adding further protection.

This container is of a "squat" style, so that it will not easily tip over—just another evidence of the painstaking care and minute attention to detail which characterizes its entire construction. The bacterins which the Abbott Laboratories supply in these 5 and 20 mil containers are well known for their purity, sterility, and accuracy. A complete list will gladly be sent upon request.

DR. FARRAND APPOINTED HEAD OF RED CROSS.

Dr. Livingston Farrand, President of the University of Colorado, has been appointed by President Wilson as Chairman of the Central Committee of the American Red Cross, to succeed William H. Taft.

As Chairman of the Central Committee, Dr. Farrand will become the executive head of the national Red Cross organization on the retirement of the War Council, which will take place March 1.

In changing the Red Cross from a war to a peace basis far greater tasks will be involved than those undertaken during the ante-war period, tasks that will require the full time of those interested with the executive duties.

Since the entrance of the United States into the war, Dr. Farrand has ben the director of the tuberculosis work of the International Health Board in France, and has been in close contact with Red Cross activities. His broad knowledge of European conditions, his high executive qualifications and the vital force of his very unusual personality will all be vital factors in increasing the usefulness and broadening the scope of Red Cross work.

Dr. Farrand's work in this and foreign countries has shown administrative ability of the highest order, and in dealing with complicated political, social and professional situations overseas he has displayed in a marked manner exceptional qualities of diplomacy, tact and co-operation.

That the program of the American Red Cross under peace conditions will be virile, statesmanlike and broad is unquestioned.

DEBARKING THE HOSPITAL CASES.

Perhaps no division of the Red Cross activities is more picturesque than the Motor Corps, handled entirely by women volunteers. This corps includes not only the ambulance corps, whose remarkable work has made them famous in every great disaster, but also the cars used officilly for necessary passenger service, transportation of officers, etc.

Some idea of the vast extent of this service may be gathered from the fact that in the Atlantic division alone, during the month of January, 1919, the Red Cross Motor Corps transported 981 litter cases and 1,470 ambulatory cases, working from ports of debarkation adjacent to New York City. These men were taken from the boat to the debarkation hospitals. In maintaining this service 347 ambulances were kept on duty and 108 passenger cars were used. In addition, transportation was provided to 255 casual officers and service was given on 264 orders from the army. During the Northern Pacific disaster the ambulances of the motor corps were on steady duty for more than forty-eight hours, darting between the scene of the grounded liner at Fire Island, L. I., the Naval Training Station and the local hospitals.

Absolute military discipline is maintained and the efficiency of the service is kept at the highest point. Dr. Dorothy Smyley is in charge of the Motor Corps of the Atlantic Division.

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE.

The next Annual Congress on Medical Education and Licensure, participated in by the Council on Medical Education of the American Medical Association, the Federation of State Medical Boards of the United States, and the Association of American Medical Colleges, will be held at the La Sall Hotel, Chicago, Monday and Tuesday, March 3 and 4, 1919.

On Monday, March 3, the Council on Medical Education of the American Medical Association will hold its fifteenth annual conference. The general topic for discussion will be on "Problems of Medical Education as Revealed by the War." Several prominent medical officers will participate, including Brig.-Gen. E. L. Munson, Lieut.-Col. H. D. Arnold, and Capt. F. C. Waite. Surgeon-Generals Ireland and Braisted, respectively of the Army and Navy, and President Maclaurin, of the Massachusetts Institute of Technology, have also been asked to present papers.

On Monday afternoon a joint session between the Council and the Federation of State Medical Boards will be devoted largely to a discussion of hospital standardization and the hospital interne year. Prominent leaders in hospital work have been asked to present papers, and the discussion will be from the various standpoints of the hospital, the medical college and the state licensing board.

On Tuesday, March 4, the Federation of State Medical Boards and the Association of American Medical Colleges will hold their annual meetings. In the forenoon there will be a joint session, while the separate business meetings will be held in the afternoon.

You are very cordially invited to attend this series of conferences and to take part in the discussions.

THE NEED FOR CLEAN MILK.

The need of public action to place clean milk within the reach of every family having little children is emphasized in the report of the New Orleans milk situation, just issued by the Children's Bureau, U. S. Department of Labor. This is the third study made under the Bureau's auspices of the use of milk in families where there are small children. The studies all indicate that children are not getting as much milk to drink as they need for healthful development; but in New Orleans, where the most recent study was made, children are found to be getting less milk to drink than the children of Baltimore, Md., and Washington, D. C., the other two cities studied. Seventy per cent of the children under eight who were not breast-fed were getting no fresh milk at all to drink. In Baltimore 66 per cent and in Washington 45 per cent of the children under eight and not breastfed were getting no milk to drink, although the Children's Bureau points out that a child under eight should drink at least three cups (a pint and a half) of milk a day.

In New Orleans only 20 of the 413 children from 2 to 7 years old included in the study were drinking as much as three cups of fresh milk a day.

While the New Orleans figures show that the children from 2 to 7 years old suffer most from lack of milk to drink, it is also to be noted that only 63 per cent of the babies under two who are not nursed by their mothers are given milk to drink, leaving more than a third of these little children without fresh milk.

The situation, says the report, gives cause for grave concern because the children are not only being deprived of "the best and most nourishing food for normal development," but they are being given injurious substitutes in its stead. Of 338 children 7 years old or younger who are not breastfed and are getting no fresh milk to drink, 245 are given tea or coffee in place of it. "Milk is not merely a pleasant drink," said a Children's Bureau expert recently, "it is a food, and really a solid food. Americans are a milk-fed race whose health will seriously deteriorate if the use of dairy products is given up."

The 211 families studied form only a small proportion of those in New Orleans having little children, but they are considered representative. Most of the parents were of native birth; in seventeen families they were foreign-born, and five were negroes. Although definite figures regarding income were not secured, the families are of about the same economic status as those included in the recent Washington study, where more than three-fourths of the families were living on $20 a week or less.

Reports issued by the Bureau of Labor Statistics show that the price of milk in the United States generally has increased 63 per cent in the last five years. According to the Bureau of Markets of the Department of Agriclture, milk now retails for 16 cents in New Orleans. In several places, notably Shreveport, La., Nashville, Tenn., and Tampa, Fla., it is as high as 20 cents a quart. The point is made by the Children's Bureau that no matter what the price of milk it is still a cheap food, because it contains all the elements essential to growth.

Fifty-three per cent of the total milk purchased in New Orleans is neither pasteurized nor inspected, and the report emhpasizes the need of inspection for the whole supply.

THE FASTING TREATMENT OF DIABETES COMPLICATING PULMONARY TUBERCULOSIS.

Landis, Funk and Montgomery, of Philadelphia, report the results obtained after treating by the Allen fasting method twelve diabetics who were at the same time suffering from tuberculosis. They found no evidence that the dietary restriction exercised an unfavorable influence on the tuberculosis. They found that it is possible for patients with tuberculosis and diabetes to partake of a considerable restricted diet over a period of some weeks and still show an increase in weight and strength, a fall in temperature and a lessening of respiratory symptoms. Other things being equal, they feel that prompt treatment of the diabetes according to the method of Allen offers the tuberculosis patient the best chance in the ultimate effort to control the tuberculosis. They include a number of detailed case histories and diet, temperature and hemorrhage charts of one patient. The treatment is applicable in the presence of recurring hemoptysis, and in every case of tuberculosis of the lungs unless the patient is obviously hopelessly ill with the pulmonary lesion, in which case the institution of the autodiabetic treatment would add only further discomfort.

Landis, H. R. M., Funk, Elmer H., and Montgomery, C. M., The Treatment of Diabetes Complicating Pulmonary Tuberculosis by the Allen Fasting Method. American Revie wof Tuberculosis, 1919, Vol. 2, No. 11.

HEALTH ALMANAC.

One of the almanacs of the sixteenth century bore the following title:

"Pronostycacyon of Mayster John Thybault, medycyner and astronomer of the Emperyall Majestie, of the year of Our Lorde God MCCCCCXXXIJ, comprehending the iij partes of these yere, and of the influence of the mone, of peas and warre, and of the sykenesses of this yere, with the constellacions of them that be under the vij planettes, and the revolucions of kinges and princes, and of the eclipses and comets.''

We are still prognosticating on the subjects of ''peas and warre, and the revolucions of kynges and prices,'' but the United States Public Health Service, in its Health Almanac for 1919, is not content with chronicling our various ills, but preaches prevention of the ''sykenesses of this yere.''

In addition to the monthly calendar of health hints and notable events, this almanac discusses such topics as the following:

Control and prevention of infectious diseases, as pneumonia, common colds, tuberculosis, infantile paralysis, typhoid fever, smallpox, trachoma, hookworm disease, and venereal diseases.

Disposal of human excreta.

Importance of clean drinking water.

Care of the teeth.

Care of milk in the home.

What the United State Public Health Service is doing to protect the health of the people of the United States.

Copies of the 1919 almanac may be obtained free upon application to the United States Public Health Bureau, No. 5 B Street, Washington, D. C.

PULMONARY CONDITIONS SIMULATING TUBERCULOSIS.

Elliott, of Toronto, in his experience as visiting physician to a number of military hospitals, was called upon continually to make diagnoses upon large number of men with diseases of the chest. He found very many soldiers who had been returned from overseas because of the diagnosis, ''tuberculosis suspect,'' whom he found to be really suffering from nontuberculosis pulmonary disease. There is no doubt, he thinks, that 60 to 80 per cent of the cases returned to Canada from overseas as tuberculosis suspects must be classified as not suffering from tuberculosis. He classifies and gives differential diagnostic points on a number of conditions that may stimulate the symptoms and signs of pulmonary tuberculosis. These conditions fall under the following heads: Intranasal complications, dental complications, diseases of the bronchial tree, pulmonary diseases, pulmonary abscess, diseases of the pleura, empyema, gunshot wounds of the chest, other pulmonary conditions, conditions secondary to heart and circulation, Graves disease and gas poisoning. He also has a few words to say about the malingerer.

PROPAGANDA FOR REFORM.

''Aspirin'' a Common Name.

The claim of the Bayer Company to the exclusive right of applying the name ''aspirin'' to acetylsalicylic acid will be definitely set aside if the recommendation of the examiner of interferences of the United States Patent Office is upheld. The stand taken by the Patent Office is in line with the established principle that no one can have a monopoly in the name of anything. Since ''aspirin'' has become the common name for acetylsalicylic acid, no one firm can have an exclusive right to it. (Jour. A. M. A., Jan. 11, 1919, p. 119.)

The Quality of the Market Supply of Procaine.

The local anesthetic procaine (first introduced as novocaine by the Farbwerke vorm. Meister, Lucius and Bruening, Hoechst A. M. Germany) is now manufactured by the Abbott Laboratories, the H. A. Metz Laboratories and the Rector Chemical Company. The products of these three firms were accepted for new and nonofficial remedies after the A. M. A. chemical laboratory had reported specimens chemically satisfactory and the Cornell Pharmacologic Laboratory had determined that they were not unduly toxic. In accordance with its announcement to report from time to time on the quality of American-made synthetics, the Council on Pharmacy and Chemistry now publishes a report on the quality of the procaine now supplied to physicians. The examination demonstrates that the three brands were of a satisfactory quality. Some of the specimens of procaine-Abbott and procaine-Rector had a yellow or light brown tingue (a specimen of procaine-Metz ''novocaine'' recently sent the Council also had a slight yellow tinge), but so far as the evidence goes there is nothing to indicate that the discolored specimens are seriously impure. The Council considers the use of the discolored product justified in the present emergency, but urges that for the future a colorless preparation be supplied. (Jour A. M. A., Jan. 11, 1919, p. 136.)

Unsuccessful Attempts to Transmit Influenza Experimentally.

Two extensive attempts have ben made under the auspices of the U. S. Public Health Service and the U. S. Navy to transmit influenza experimentally. Inoculations were made of pure cultures of the influenza bacillus, of secretions of the upper air passages in the early stages of influenza, and of blood from typical cases of influenza, and other methods of transmitting the disease were tried. In no case was influenza developed. (Jour. A. M. A., Jan. 25, 1919, p. 281.)

Coca-Cola.

Analyses made by federal chemists showed it to contain from 0.92 to 1.30 grains of caffein to the fluid ounce. It would seem that in the interest of the public health the indiscriminate sale to children and adults of an alkaloid like caffein in the enticing form of a "soft drink" is to be deprecated. (Jour. A. M. A., Jan. 25, 1919, p. 299.)

THE OUTLOOK FOR MEDICAL PRACTICE.

The great war, which has resulted in revolutions, the downfall of dynasties of centuries of duration, the establishment of republics and stupendous alterations in the map of Europe, has produced changes of equal magnitude in the political, economic and social conditions of most of the nations of Europe. The fact that the United States has not been subject to like convulsions is due to its isolation and separation by three thousand miles of ocean from the scenes of war and conflict. Yet, changes along these lines of an unprecedented character are going on in our country at the present time unobserved and unrecognized by many, the actual demonstration of which will undoubtedly be presented during the coming months.

The practice of medicine will not escape the revolutionary forces which will become active in the social and economic developments of the future. Several millions of the best youth of our land for a year or more have experienced the beneficent results of careful paternalism in the treatment of the body in health and disease, which has been administered under government control. During this period the boys from our cities and villages have been under the immediate supervision of the most skillful and trained medical talent which the land can product, without immediate cost to the individual. Every form of sickness has been cared for in the most skillful manner. Their lives have been surrounded with the most scientific efforts to prevent disease and control it wherever it has gained a foothold. With such a demonstration of the possibilities to be obtained by the best scientific medicine, will these boys, who are soon to be the men of the land, be hereafter satisfied with medical attentions of a mediocre or deficient quality?

A large proportion of our states have established industrial insurance to protect its workmen from the injuries of hazardous occupations. In many states is being agitated state medicine for all forms of sickness for the working man. When our millions of soldiers return to their former occupations, having already experienced medical attentions along these same lines, they may constitute a powerful force in support of the efforts to establish measures for the treatment of sickness on the part of the state or nation.

Is the medical profession of our land prepared to meet the demands which will be made upon it in the changes and expansion to be anticipated along these lines of practice? One cannot expect the routine of old established plans and methods to be permanent for the future. The physician who is alive to the demands of the hour must prepare himself for an altered viewpoint and methods for the coming days of medicine.—Editorial in Northwest Medicine.

STAINING METHOD.

On account of the difficulty of differentiating Pfeiffer's bacillus from other bacilli with which it is commonly associated, W. G. MacCallum, Baltimore (Journal A. M. A., January 18, 1919), recommends and describes a stain which is a combination of one devised by Dr. Goodpasture and the Weigert strain.

gm. 2. Wash in water. 3. Differentiate in 40 per cent formaldehyd solution. This requires only a few seconds. The bright red color washes away and gives place to a clear rose. 4. Wash. 5. Counterstain in saturated aqueous picric acid. The section remains until it assumes a purplish yellow, about three to five minutes or less. 6. Wash in water. 7. Differentiate in 95 per cent alcohol. The red reappears and some of it is washed out. Some of the yellow of the picric acid is also washed out. 8. Wash in water. 9. Stain in Stirling's gentian violet five minutes or more. 10. Wash in water. 11. Gram's iodin solution. 12. Blot dry without washing. 13. Anilin and xylene (equal parts) until no more color comes away. 14. Two changes of xylene. 15. Balsam.'' Gram-negative onganisms stain red, and gram-positive, blue. The tissues stain brilliantly in shades of red and purple. The method should be useful in the study of sections of exposed surfaces with gram-negative organisms, such as in the lesions of dysentery, typhoid fever, and other similar conditions.

EXPERIMENTAL MEASLES.

Ludwig Hektoen, Chicago (Journal A. M. A., January 18, 1919), contributes a review of experimental measles in man and animals, including his own experiments published in 1905. In these, special care was taken to avoid natural infection. They confirmed those of Mayr and others, as showing that the virus of measles is present in the blood at least during the first thirty hours of the rash. Instances of apparent accidental inoculation of measles seem to be very rare, the case described by Michael in 1887 seems inconclusive| The literature of experimental measles in animals is also reviewed; most species seem to be resistant, but the experiments on the quadrumana seem to be conclusive that they can be successfully inoculated. ''We may conclude,'' Hektoen says, ''from the results of human experiments that the cause of measles is present in the nasal secretions, scrapings of the skin, epithelial debris and blood, and the the blood, during the earlier part of the eruptive stage. Attempts to produce by inoculation a mild, modified or localized form of measles have not yet given conclusive results. The only animal proved susceptible to measles so far is the monkey, but the susceptibility is not marked, and seems subject to variation. The disease in the monkey is mild and makes the form after an inoculation of several days of brief fever, with which may be associated more or less typical skin changes, respiratory symtoms, Koplik spots, and the characteristic measles leukopenia. The results in monkeys show that the cause of measles is present in the nasopharyngeal secretions and the blood at least twenty-four hours before the rash, as well as for a day or two afterward.''

STYPTICS.

Ordinary bleeding has a strong tendency to stop spontaneously with the formation of a clot, so that the benefit attributed to a drug that has been used as a hemostatic cannot easily be evaluated. Evidence of the current confusion of cause and effect in relation to local hemostatics has been furnished by P. J. Hanzlik. In general he finds that the local application of vasoconstrictor and astringent agents diminishes or arrests local hemorrhage, while vasodilator and irritating agents (without astringent action) increase local bleeding. The value of the newer thromboplastic agents of the kephalin or tissue extract type is considered as still uncertain. Epinephrin remains as the most efficient and desirable hemostatic agent. Tyramin and pituitary extract were found efficient, and, unlike epinephrin, they do not increase bleeding later. Astringents were found variably effective, ferric chlorid and tannin standing highest, while alum was disappointing. The vaunted cotarnin salts (stypticin and styptol), antipyrin and emetin were found to increase bleeding on local application.—Jour. A. M. A., Feb. 22, 1919, p. 577.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE
ISSUED MONTHLY, under Direction of the Trustees
OLIN WEST, M. D., Editor and Secretary J. F. GALLAGHER, M. D., Associate Editor
OFFICE OF PUBLICATION: 601 CEDAR STREET NASHVILLE, TENNESSEE

VOLUME XI NASHVILLE, TENN., APRIL, 1919 NUMBER 12

BETTER DIAGNOSIS AND BETTER CASE RECORDS.*

By RICHMOND MCKINNEY, M. D.,
Memphis.

In a few words of appreciation of my election to this highest honor in the gift of the physicians of our state, at the Memphis meeting last year, I expressed the hope which was common to us all—that by the time of our next annual meeting, the war would have been brought to a conclusion, and that our boys, victorious, would by then have come marching home. This hope has been realized, and while many of the members of this Association still are with the colors, and have not as yet been released from service, a good proportion of those physicians of Tennessee who have helped to maintain its glorious claim to the title, "The Volunteer State," have returned to civil life, and have resumed the exacting burdens of the routine work of their profession.

So, after expressing the highest sense of admiration that we all feel for these members of our Association, who self-sacrificingly responded to the call that the country sent out for their services in this holocaust which the Prussian military regime visited upon the world, we are met today for the purpose of exchanging views on various topics which have to do with the improvement of our knowledge of medicine, and with progress in all things pertaining to the calling in which we are engaged.

In keeping with the spirit of progress which happily seems to pervade our medical societies, I am going to dwell today for a few minutes on a subject in which I have always taken a keen interest, and one the importance of which is more and more becoming apparent to us all. This is the subject of "Better Diagnoses and Better Case Records."

In arguing for a more thorough investigation of our cases, especially of those cases in which operation is contemplated, I am not discussing a subject to which we are in any wise strangers, for we all must realize that oftentimes too little study is made of our cases, both medical and surgical, before treatment is instituted. Too often the case which seems to demand surgery is rushed to the hospital and operated upon, before a thorough investigation of the underlying condition is made, and by a careful diagnosis the actual necessities determined. Perhaps this is due to the unfortunate competition for work which we know obtains so largely in our profession, but, no matter what the cause, we see on every hand the distressing physical results of such untoward haste, and find that disappointed patients are growing more and more abundant, with resulting discredit to the medical profession on the whole.

We have all had the experience of having a patient come to us in whom we were not positive that operation was necessary; have so advised, and have heard later that this patient has been operated upon by some one else. A few experiences of this kind may cause us to feel that, from the financial standpoint, at least, we have erred, but a conscientious regard for the welfare of our patients convinces us that our erring has been humanitarian, and certainly much better for those of us who regard medicine as a scientific profession, and not merely a means of financial emolument.

---

*President's Address, Eighty-Sixth Annual Meeting, Tennessee State Medical Association, at Nashville, April 8, 9, and 10, 1919.

Furthermore, if we must regard this from the financial standpoint, is it not true that the public is growing more and more discriminating, and is beginning to appreciate a conservative attitude and a carefully made diagnosis on the part of the physician? What is the real secret of the success of most of our well-known clinicians in medicine and surgery? It is not that they really are so much better doctors than we. Is it not the thoroughness with which the individual patient is considered, and the careful and systematic examination to which they are subjected before treatment of any kind, medical or surgical, is instituted? I think the answer is found in the satisfaction that comes to the patients who seek these clinicians, and in the great success, both financial and professional, which has met the efforts of those who have equipped and surrounded themselves with the means for studying their cases, and for making thorough and competent diagnoses before treatment is instituted.

The woman who recently told me that she had consulted a well known internist in a Northern city, had been subjected to a careful and analytical physical examination, and had then been advised by the clinician to take no treatment other than three prunes at bedtime every night, for which examination and advice she paid $50.00, was quite satisfied with the result of the examination, and did not mind paying this fee, because she realized that the examination had been so thorough that she knew nothing organically wrong was the matter with her, and she felt that to be sure of this at the hands of a capable clinician who had carefully studied her case was well worth the fee charged for the service rendered.

On the other hand, the young man who came to me a year or so ago with a history of having been hoarse for a number of months, with shortness of breath, with some loss of weight, and a little fever, for which symptoms he had been advised to give up a good position and go West, which advice he had accepted, with no improvement in his condition resulting, and who had been referred to me on his return to Memphis, and found to have a sub-glottic tumor—a pedunculated angioma—which was causing his hoarseness and shortness of breath, and who made a complete recovery after removal of the tumor, must feel that he had not been subjected to as careful an examination by those in whose hands he previously found himself as he deserved.

Then I may cite the case of a man with very high blood pressure, who consulted me with reference to the condition of his tonsils, asking if removal of these would reduce his blood pressure. Of this he could not be assured, but two or three months later, while in a Northern city, he evidently received more encouragement in this respect, for his tonsils were removed by a throat specialist of that city, but at last accounts, as I was informed by a friend of the man's wife, his blood pressure was just as high as ever. Here was a patient who evidently was seeking operation, and it is in such cases as this that we find difficulty in putting the soft pedal on our surgical desires.

It may be argued that the facilities for thoroughness in diagnosis are to be found only in the larger centers, and that the practitioner in the districts remote from laboratories and hospitals cannot offer his patients the advantages of thorough study, but I hold that this is not true, for it requires very little laboratory equipment and knowledge for the examination of blood, sputum and urine, and it is the application of these diagnostic methods in the study of their cases which gives the most decided advantage to the clinicians in the larger centers. The physicians who are being turned out by the medical schools nowadays have, of course, a preparation in laboratory and bedside work that the older men were deprived of, and this gives them a clinical superiority which will tell in the future. Yet with the large experience of the older men, it does not require the application of a great deal of time, nor the expenditure of any large sum of money, to equip them to investigate their cases just as thoroughly as their younger colleagues. And while on this subject, I may say that in the cities many of us do not take advantage of the opportunities offered us for thorough investigation of our cases. The success of those who are recognized as having developed efficiency in diagnosis stands out so markedly that we have a constant object lesson of the fact that both the laity and the profession are beginning to recognize the prime importance of a careful study of the individual patient.

Closely allied with this subject of better diagnoses is that of better case records. The keeping of good case histories in hospitals is now a matter of constant agitation, and the American College of Surgeons has embarked upon a definite and well-worked-out plan of investigating conditions in hospitals, with reference to case records, and by public and professional pressure, to compel these institutions to see that careful and proper case records are kept. It is remarkable how few hospitals, especially in the South, have carefully kept histories of their patients, and many of them have practically no history records whatsoever.

I am not acquainted with conditions existing in the hospitals in the other cities in the state, but judge they must be similar to those of my home city. There are five hospitals in Memphis, three of these being large institutions, but in only one of these hospitals are case records kept according to what is expected of institutions of this character. This is the Memphis General Hospital, and there we have a most excellent system of case recording, and every patient entering the hospital is given a thorough and detailed examination, with a carefully kept history record. There we have a record clerk employed, whose sole duty it is to keep up with the records, to classify these, and to properly file them. The other hospitals in the city are attempting in a way to see that records of their patients are kept, but this cannot be done satisfactorily without the co-operation of the doctors who send patients to these hospitals. And it is surprising how many doctors fail to keep history records of their patients. In my personal acquaintance I know a number of doctors with large practices, both medical and surgical, who are in every way competent, and yet who never make a history record of the patients whom they treat. It must require an extraordinarily good memory for a doctor to remember the details of the various cases which he has under treatment, and if he does not remember these, how is he going to keep himself familiar with the clinical course of the condition which he is treating?

The surgeon may say, "Oh, well, this patient had pus tubes, which I removed;" or, "that patient had a ruptured appendix, for which I operated, and there is no occasion for making a case history record," and the internist may content himself with noting from time to time on his mental chart such conditions as he finds, and may rely on the nurse's record for the rest, if he should be so fortunate as to have a nurse in attendance on his patient, but when it comes to an analysis of one's cases, and to following up the details of the conditions, and of recording one's experience in the literature, where is the doctor who fails to keep records going to find himself? There is considerable satisfaction in practicing medicine for its scientific aspects, and unless we study and analyze the clinical course of the condition which we treat, and record our observations, we lose much of the scientific value of our experience. A simple form of case recording, in which the name, age, symptoms complained of, condition found and treatment used are recorded and filed away, is invaluable in following up our patients, and indispensable when it comes to presenting our observations.

It is, of course, considerable trouble to make our case records, but when one becomes accustomed to doing this, it takes a very small amount of time, and the great satisfaction of having your case histories complete and carefully filed away for future reference offsets a mere detail of trouble in taking these histories. Personally I should be at a loss as to what I was doing, if I could not turn to my records, which are handed in with each patient, and ascertain what the condition is, and what treatment is being used. And then, when a patient comes in whom you have treated some five or ten years before, it is very gratifying to be able to turn to your record of the case and find the condition existing at that time, and what was done for it. I imagine, too, that the patient likes to realize that his condition has been carefully recorded.

These subjects which I have so sketchily reviewed today are pertinent ones to the modern practitioner, whether he be engaged in medical or surgical work, and with the constant advancement being made in medical education, they are two phases of the practice of our profession which cannot be overlooked. Most doctors are progressive ,and anything we can do to make us more accomplished in our work is usually readily taken up. From my own observation, I know of nothing that can do more toward rounding out a finished product as an accomplished physician than an intensive and analytical study of one's cases, and a careful recording of the findings in these.

THE FUNCTIONS OF A STATE BOARD OF HEALTH.*

By Robert C. Derivaux, M. D.
Past Assistant Surgeon,
United States Public Health Service.

The principle of self-preservation and the avoidance of that which is known or suspected to carry with it potentialities of disaster and disease are among the elemental principles which govern human action, and quite secondary to which follow those having to do with provision for existence, for perpetuation of the race, and for the common welfare.

The importance of the public health should be well known. No phase of human affairs carries its aspects of gravity, nor is there any fundamental influence which functionates so intimately in determining progress and prosperity as does that of physical welfare. And, just as the habits, morals and other attributes of a community or nation reflect those of its human components, so likewise must its larger prosperity be directly connected with the common health of its citizenship. In other words, the point of view refers ultimately to the individual, as the social unit of the body of people toward whose betterment health protection is to be extended.

Obviously, however, matters of disease prevention and control can only be of concern to the individual in a restricted measure. How, for example, is the individual to know of the existence of a disease menace, or, having possibly ascertaied its presence and nature, is action to be taken? Or by what authority and with what force may what is a clearly appropriate procedure, even though it may operate to the curtailment of actions and liberties of others, be undertaken that one case of communicable disease does not beget a number of secondary cases, or that some process or action on the part of a few individuals be not permitted to engender a train of illness, disability or death to the innocent bystander, or to his own or to another community?

It is precisely to fill the manifold and complex requirements of these very essential functions that health organizations of varied constitution and latitudes have been called into being, and it is to these responsibilities that they are accountable.

Organized health protection may be said to begin at the top, with the United States Public Health Service, which acts in a national capacity in preventing the entry of diseases from without the country, in suppressing epidemics, prevention of spread of disease from one state to another, in investigation of the causes of production and spread of disease, and in many other ways. Next come the state boards, or departments of health, which act in a capacity more closely adjusted to the political organization of this country and in supervision of matters pertaining to preservation of life and health within each state, and, finally may be mentioned the smaller, though highly important, county and municipal healt horganizations, whose jurisdictions are more sharply limited. The fields of activity and functions of all of these, though separate and distinct, are intimately and essentially related, and are all, to a greater or lesser extent, interdependent upon each other.

The especial functions of a State Board or

---

*Read before Tennessee State Association of Charities and Corrections meeting at Nashville, April 14-15, 1919.

Department of health are of the highest and most vital consequence, and comprise control of all matters concerned with the public health within the state, including registration of vital statistics, investigation and control of threatened or actual outbreaks of disease, supervision of public water supplies and watersheds, quarantine, supervision of the activities of county and municipal organizations in matters concerned with the public health, laboratory diagnosis of disease, administration and enforcement of the laws, and regulations pertaining to the public health, and other duties.

But how perfectly are these functions executed by the several state organizations as they now exist, and what should constitute the ideal toward which effort for betterment should be directed? It is a matter of deplorable fact that, up to the present, the activities of a number of state health organizations have been largely nominal and advisory in character, and, in many cases, well constituted boards have been so hampered because of lack of appropriations to carry into effect the duties with which they have been charged by law as to render them practically powerless. It is likewise lamentable that, in many instances, political machinations have operated prominently in so determining the constitution of state health organizations as to render their efforts little short of farcical. Witness the following quotations, taken from a letter* written by a physician declining an appointment as member of the board of health of one of the larger Eastern states:

"The state, for example, does nothing—save give occasional advice, which goes unheeded—to prevent the development of tuberculosis. To partially defray the expenses of a few early cases of consumption is laudable, but also ineffectual in reducing to a controllable minimum this disease, unless, at the same time, urgent measures are taken against persons with advanced disease who are now allowed to roam about undisturbed. Those who are a menace to others because they cannot or will not properly dispose of tuberculous sputum ought to be segregated and isolated. Moreover, a state board of health ought to be given power to do this, and then be held responsible for the exercise of it. It is asinine to attempt to plug up the hole in a boat by baling out the water as fast as it enters.

"Again, each year morbidity and mortality from typhoid fever are greater than they ought to be in a state whose sanitary intelligence is high. As soon as this fact becomes more generally known to those who would spend their vacations with us, she will suffer an economic loss, owing to her typhoid reputation, from which she will be slow to recover.

"What with the supervision of such industries as frequently inflict 'industrial disease' upon employees; with the apprehension and prosecution of those engaged in the sale of adulterated or diseased foods; with the regulations of places and hours of labor for men, women, and children; with the dissemination among our citizens of information relating to all occupational diseases, the cause of syphilis and gonorrhea, in addition to enlightenment concerning their infections; with these as some of the duties which ought to devolve upon health boards, we have here a job requiring a high degree of intelligence and learning which must be paid well. Failure to provide ourselves with such skill spells niggardliness.

"So long as the state is content to fill these vital positions with unpaid men, just so long will these men be obliged to render a service commensurate with what they receive.

"It would be equally deplorable, of course, were these offices used for the payment of political debts."

The thoughts embodied in the foregoing, together with the old conception that a state board of health was a somewhat non-active body charged with the conduct of examination for license to practice medicine, and to act only in times of actual epidemic, etc., represent with fair accuracy conditions in this connection as they have obtained in the past. Happily, this situation is slowly changing and giving way to a broader understanding and realization that what with the increasing complexities of modern life, the duties and functions of a state health organization have become of such a character that they are to be entrusted only to sanitarians well qualified by training and experience, and also that increasing knowledge of conditions affecting the health of a state must be kept apace with in the enactment of suitable control legislation, together with appropriation of sufficient funds for its enforcement.

---

*Public Health Reports, Vol. 30, Part I, p. 146.

It is to be realized that state health organizations—and more especially is this true in the South—is still in a formative or evolutionary stage, and an ideal can rarely be attained at a single operation. It is, however, of the utmost importance that a well conceived and evenly balanced program for betterment be systematically undertaken, and an organization perfected that is adequate to the principal sanitary needs of the state in question; emphasis should be also given the fact that appropriate legislative enactments, sufficient appropriations, and, most important of all, **popular appreciation of what a state department of health is for,** are essentials without which the operations of an organization cannot be other than cursory and unsatisfactory.

Ideally, the health affairs of a state should be made the responsibility of an organized department of health rather than of a board alone, this department consisting of its board, in an advisory capacity, and having a trained sanitarian with the title of commissioner of health as its principal executive officer. The board should consist of five or seven physician members, appointed for four or five years each, and so appointed as to change but one each year, and represent the principal sections or grand subdivisions of the state; it might be desirable that the Governor be included as an ex officio member of this board, likewise there might be advantage in increasing its numbers somewhat and including lay members. The board of health should meet, preferably at the capitol, at not less than four stated intervals during the year, and additionally, at such times as extra sessions might be deemed essential or expedient in the opinion of its executive officer, the commissioner of health.

For the transaction of the necessary business of the department, organization into bureaus or divisions has been found to be productive of most efficient results, and is to be recommended; in such an organization, the commissioner of health acts, in his capacity as principal administrative officer of the department, in charge of its executive bureau, and each of the other bureaus is headed by a full-time assistant, especially trained and proficient in the special functions of his subdivision. The following bureaus or subdivisions are mentioned to illustrate this general scheme of organization, which would of necessity require minor modification to conform to the especial requirements in various states:

Executive Bureau.—Executive and administrative affairs of the department of health, accounts, general reports, etc.

Bureau of Vital Statistics.—Collection and compilation of returns of births and deaths, marriages and divorce.

Bureau of Communicable Diseases and Epidemiology.—Collection and utilization of morbidity reports; investigation and control of outbreaks or unusual prevalence of disease; public health nursing.

Bureau of Sanitary Engineering.—Supervision of water-sheds and supplies, sewage disposal, drainage refuse and garbage disposal projects.

Bureau of Rural Sanitation.—Sanitation in rural sections, demonstrations of sanitation, and co-operation with governmental and other agencies in promoting rural sanitary improvement.

Bureau of Laboratories.—Laboratory diagnosis of communicable disease, co-operation with other bureaus in milk, water, sewage investigations, and in control of industrial diseases. Supervision of work of district laboratories, and co-operation with local and municipal laboratories for special purposes.

The foregoing represent the principal or major subdivisions of an organized department; special circumstances requiring, and as the more immediate needs have been met, additional bureaus should be added, including bureaus of child welfare and school hygiene, oral hygiene, venereal diseases, education and publications, etc.

Examinations for license to practice medicine, etc., are not usually considered among the functions of a board of health, and there appears to be no reason why this should not remain the province of a separate organization.

The outline given above includes the major and essential subdivisions of an organized department, and shows briefly something of the scope and field of each bureau. A few words further comment may not be amiss in emphasizing or extending this explanation. It is hopeless for a state health organization to attempt to operate without having, in thorough working order, a system of collection of vital statistics (reports of births, deaths, etc.) that it may continuously know its populations and its changes, together with the reasons, in the case of deaths, that are determining those changes; it is as unreasonable to suppose that a state can foster its human resources without adequate vital statistics as it would be for a business firm to attempt to dispense with a system of accounting or bookkeeping. The same general thought applies to morbidity statistics (reports of communicable diseases); no well-planned disease preventive or control measures are possible without previous accurate knowledge—not rumor—first, of the existence of disease, and second, something of its nature and degree of prevalence. Morbidity statistics are the very foundation of the work that must be carried by a bureau of communicable disease, and no effort should be spared that these returns be obtained.

Mention is also desirable of the fact that in most instances, exclusively central administration of the health affairs of a state may not be entirely subservient to its best interests, and particularly is this true with reference to immediate communicable disease control activities, and to laboratory functions. In a state whose size or geographic peculiarities make access to all parts from the capital difficult or unduly time-consuming it is advisable to subdivide the state into districts, and place each of these under the supervision of a district health officer by whom the state functions may be exercised. District or branch laboratories are similarly needed in states where the factor of time consumed in transportation of materials would operate to the serious disadvantage of the investigations in hand. In Tennessee, for example, subdivision of the state into eastern, central and western districts, with the assignment of a district assistant and a branch laboratory to each, would obviate the present disadvantages incidental to the distance of the extremities of the state from the capital and from each other.

From the foregoing, the impression may have been gained that adequate health administartion is a matter of such great complexity as to be almost beyond reach without great expenditures in energy and funds; this is not entirely accurate, though it is a matter of certainty that but little can be accomplished without gradual provision for well-organized, well understood, well supported, and systematically co-ordinated effort. A state or other health organization should not attempt to introduce, more or less experimentally, a radically new and complex system at a single operation in replacement of what it may already have in effect, but modification along systematized and carefully laid lines should be energetically furthered as increasing knowledge of conditions to be met continues to become applicable.

The statement of Louis Pasteur that "it is within the power of man to cause all infectious diseases to disappear from the earth" may not as yet have been possible of realization, but it has been abundantly shown that public health is largely a purchasable commodity, and that a people can, within certain limits, determine its own rates of disease and death.

SURGERY OF THE GALL BLADDER AND BILIARY DUCTS.

By J. B. HASKINS, M. D.
Chattanooga.

Infection and malignancy are conditions which enter into the etiology of surgical lesions of the biliary tract. Experimental work on animals has shown that infection enters this region as a general infection, as is frequently shown by the presence of lesions existing in the appendix, duodenum or stomach at the same time. It has not been definitely decided whether the infection is primarily in any one of these foci and distributed from it to the other regions, or whether the infection begins at the same time at several additional points owing to the organisms circulating in the blood stream. However, it is of practical importance that surgical procedure for biliary tract lesions will involve exploration of these several areas, which adds little, if any, to the operation. When infection reaches the gall bladder or biliary ducts from the portal circulation infection exists within the liver, though apparently it is eventually relieved by proper bladder and duct surgery. Latent hepatic infection may in some instances cause a recurrence of symptoms at some future time.

The clinical features of disease of the gall bladder might be divided into four groups:

In group one we have the chronic cholecystitis acting as a focus for more or less general infection which produces many vague digestive disturbances. The pain in this group of cases is not at all typical, but is apt to be almost constant. We often have symptoms of general toxemia and complaints of innumerable points of tenderness and pain. This type of case calls for great caution to determine that the trouble lies in the gall bladder, for without close study many neurotics will have their abdomens opened for pseudopathology and many who need the benefits of surgery are liable to be classed as incurable neurasthenics. Then again, there can be no question but that the gall bladder is sometimes a focus for a general infection, which infection subsides when attention is given to the gall bladder.

In cases where there is a cholecystitis the gall bladder wall is usually thickened and is either not compressible or empties very slowly on pressure. But because the gall bladder cannot be compressed, is not in itself a sufficient reason for operation. Sometimes an enlargement of the regional lymphatics will help in making a diagnosis, for these lymphatics are always greatly enlarged and softened in the presence of marked cholecystitis. Sometimes the pathology is not evident on exploration, but may be in the gall bladder or pancreas, or both. Some of our best writers on this subject tell us that in this type of case drainage of the gall bladder is not enough, for symptoms recur in too large a number of cases, and where we have a case of cholecystitis the gall bladder should be removed.

Group two: Under this group we have the cases of typical gall bladder colic. The attacks are short, sharp and colicky, with characteristic radiation and risidual soreness. There is usually no chill, fever or jaundice, but morphine and external heat are required to relieve the pain. Very often patients with this type of case go a long time before seeking permanent relief, for as soon as the pain is over they feel perfectly well. On exploration a gall bladder apparently normal in size, color and thickness, and containing one or many stones, may be found; or it may contain many stones with any degree of inflammation present in the gall bladder. In some instances one is surprised at the good condition found maintained in the gall bladder having a large number of irregular stones. It is in this type of cases that recurrences most often occur—that is, if the gall bladder is drained; for very often stones are either overlooked or reform after drainage. In most instances such gall bladders are probably functionless after drainage, and it would be much better to remove the gall bladder at first, for the patients are quite as comfortable, and removal leaves no danger of recurrence.

Group three: Under this group we have the cases of typical cholangeitis, with stone or stones in the common duct which at the time of the attack produce an obstruction to the flow of bile and a resulting jaundice. Each attack is associated with chills and fever, as well as jaundice, and quite often there are stones in the gall bladder, which is most often contracted. There may also be stones in the cystic and hepatic ducts, and sometimes swelling and hardening of the pancreas. In operations of the gall bladder it is essential that the ducts shall be explored as carefully as possible, because stones are found in them when least expected.

In spite of enlargement of the ducts in common duct obstruction, the gall bladder itself seldom is enlarged; as a rule, it is contracted. This is in accord with what is known as Courvoisier's law, that in 80 per cent of the cases of obstruction of the common duct due to stones, there is contraction of the gall bladder; while in 90 per cent of the cases of enlargement of the gall bladder, the obstruction is due to causes other than stones.

In group four are the typical cholangeitis cases, with an almost painless jaundice. It is almost impossible to make a definite diagnosis without exploration in this type of case, and many clinicians say that all these cases should be subjected to an exploration. The symptoms may be produced by hepatic cirrhosis or by cancer at the ampulla, or head of the pancreas. In operating on these cases jaundice is always an added risk, and if it is subsiding the operation should be postponed. If the jaundice is quite marked, with no tendency to subside, the coagulation time should be studied before operation.

It has been the observation of a large number of surgeons that the use of calcium salts before and after operation is of no advantage. Transfusion is now being advised whenever possible in this type of case before operation.

The most desperate cases are those in which the obstruction of the common duct is due to a stricture or in which the duct had formerly been ligated or divided during an operation. From reports from the larger clinics, it seems that these cases are constantly increasing. Jaundice is produced when comparatively no bile passes into the intestinal tract. The liver has oftentimes been entirely closed off for from several weeks to several months, and the difficulty lies in liver function after the duct has been reconstructed. According to Judd, the jaundice in most cases persists in spite of bile drainage, and almost any type of toxemia may appear. Transfusion and aspiration of the large congested liver is said to be very helpful in dealing with such cases.

A few years ago Drs. Judd and Mann removed the gall bladders from various species of animals and studied the effect of such procedure on the remaining portion of the biliary tract. Certain definite facts were ascertained by this study, the most important of which were that usually all the extrahepatic ducts dilate shortly after the gall bladder is removed, and that this dilatation is apparently due to fluctuations in pressure which are maintained by a small bundle of muscle fibers at the entrance of the ampulla into the duodenum, known as the sphincter of Oddi. The study also showed that in many of the animals this sphincter apparently lost its resisting power shortly after the gall bladder had been removed. The bile, instead of flowing into the duodenum under the influence of this sphincter, flowed continuously, and the bile pressure within the common duct, which is normally at least 100 mm. of water, dropped so as not to exceed 30 mm. In many instances the bile pressure within the duct was practically nil a few weeks after the gall bladder had been removed.

Dr. Mann's further studies on these points are very interesting. In comparing the bile pressure in animals with gall bladders with that in animals without gall bladders, he has shown that the animals which do not possess this organ have bile flowing through the common duct which is under practically no pressure, in spite of the fact that the sphincter of Oddi in this species is apparently the same anatomically as in the species having the gall bladder. The changes produced in the remaining parts of the excretory apparatus of the liver after the gall bladder had been removed were the most conclusive proofs obtained that the gall bladder has a definite function.

Dr. Mann has grouped the theories that have been offered to explain the functional significance of the gall bladder under three headings: First, the gall bladder may functionate as a reservoir for the storing of bile. While this may be true to a slight degree, it is well known that the capacity is too small, as compared with the amount of bile secreted, to act very capably as a storage reservoir. Second, he classifies the gall bladder as a secretory organ which elaborates and adds something that is of importance either to the general body economy or to the mechanism of bile expulsion or chemical action. It is certain that this mucus mixed with the bile changes it considerably. It has been shown repeatedly that mucus from the gall bladder mixed with bile renders it much less irritating to the pancreas in case it comes in contact with that organ. Third, he names the gall bladder the regulator of the flow of bile.

This function of the gall bladder has been suggested by a number of investigators. From the changes produced in the flow of bile by cholecystectomy, it would seem well established that the gall bladder certainly has something to do with the bile flow, and that its action as a tension bulb must be one of its most important duties.

Time will not permit me to give you the technique of any operation upon the gall bladder or ducts; however, it is my opinion that, whenever possible, the gall bladder should be removed.

While removal of the gall bladder should be the operation of choice, in cases of cholecystitis with or without stones, still, in certain small percentage of cases, it is much better to do a cholecystostomy primarily and then to remove the gall bladder in a second operation if it becomes necessary. This would seem to me to be the best plan in case of much infection outside of and about the gall bladder or in cases with edema about the ducts. If the infection is confined to the gall bladder, it is best to remove it if possible. Enlargement and hardening of the head of the pancreas is an indication for removal of the gall bladder in preference to drainage, and this would still hold good in the presence of a slight degree of jaundice if the jaundice is due to pancreatitis. Cholecystectomy, seemingly, accomplishes more in cases of pancreatitis associated with gall bladder conditions than does any other form of treatment. This is probably due to the changes produced in the excretory apparatus by the removal of the gall bladder. It does not seem to me to be advisable to open the common duct for exploration unless stones can be palpated. Dilatation of the common duct is not an indication for draining it, as this change would have taken place if the gall bladder had been out of commission for any length of time. If the stones in the ampulla can be removed through an opening in the duct, it is much safer and is preferable to the transduodenal operation. It is my opinion that the transduodenal operation should rarely, if ever, be done, as a little time and patience will succeed in removing a stone through a low incision in the duct. Exploration of the gall bladder and ducts should be performed in almost all cases of chronic jaundice in which the diagnosis is uncertain. Some of these will prove to be due to infection which can be promptly relieved; and if a malignant obstruction does exist, a palliative operation can often be done which will be very satisfactory.

USE OF INFLUENZA VACCINE AS A PROPHYLACTIC—AN EXPERIMENTAL STUDY CONDUCTED BY THE MASSACHUSETTS STATE DEPARMENT OF HEALTH.

By Wm. A. Hinton, M. D., Boston.
Edna Sypher Kane, M. D., Monson.

The chief reason for writing this paper is to show the necessity of properly controlled experiments to determine the value of a prophylactic remedy during an epidemic. As will be shown later, only one institution from a group of twelve state institutions, representing a total population of about 15,000, of whom over 6,000 were vaccinated, afforded the necessary control for investigating the prophylactic value of the particular influenza vaccine furnished. The vaccine used by the State Department of Health in the recent epidemic was prepared in the pathologic laboratory of Tufts Medical College under the direction of Dr. Timothy Leary. The vaccine consisted of two strains of influenza bacilli, obtained during the present epidemic,* one strain being recovered at autopsy and the other from the nose of an infected patient. These organisms were grown on blood agar for from sixteen to twenty hours, suspended in salt solution and heated to 55 degrees C. for twenty minutes. One cubic centimeter of the vaccine contained approximately 800 million organisms. Tricresol was added to keep the vaccine sterile or to prevent the growth of a few contaminating organisms, chiefly staphylococci, which in the hurry of preparation it was sometimes impossible to eliminate. The vaccine was given intramuscularly at twenty-four hour intervals into the deltoid and triceps muscles. The injections were 0.5 cubic centimeters on the first day, 1.00 cubic centimeters on the second day, and 1.5 cubic centimeters on the third day. Children under twelve years of age were given one-half these quantities.

---

*The first case of so-called influenza occurred in Boston, August 28. These cultures were obtained before the middle of September.

The administration of the vaccine in all of the institutions listed was under the direct supervision of one of us (Hinton), who organized the personnel required and gave such directions as were necessary to carry out the experiment.

During the first week of October a canvas was made of the state institutions, considering chiefly those under the control of the Commission on Mental Diseases, to determine the incidence of influenza in them. It was found that of this group of institutions only the Monson State Hospital and the Northampton State Hospital had no cases of influenza previous to October 6, the day on which the inoculations were begun.

At this point we wish to thank Dr. George M. Kline, State Commissioner on Mental Diseases, the superintendents of the state institutions involved, and the medical staff of these institutions, upon whose fine co-operation the success of this experiment depended.

Description of the Monson Experiment.—The Monson State Hospital, for epileptics, has inmates from four years of age to senility, in addition to a staff of three physicians and approximately one hundred attendants. The inmates are housed in fourteen buildings. The activities consist of agricultural pursuits, laundry work and other occupations such as are carried on in an institution of like character. It therefore represented a small colony of individuals ideally suited for the purposes of this experiment. Further, this institution had been under partial quarantine since the middle of September, which was continued throughout the epidemic. Approximately half of the patients in each building were vaccinated, and as far as possible this was done by vaccinating a patient in every other bed of a ward or room.

Careful records were kept on 233 female patients as to the local and constitutional reactions of the vaccine. The following table will show the constitutional effects of the vaccine by age groups:

Table I.—Reaction to Vaccinations.

AGES.	Number of Inmates---	No. Reaction-	Headache and Vertigo---	Cough and Coryza---
4 to 10 years ---	4	2	2	--
11 to 20 years ---	61	39	15	7
21 to 30 years ---	62	55	4	3
31 to 40 years ---	42	37	2	3
41 to 50 years ---	26	23	2	1
51 to 60 years ---	22	20	1	1
61 to 70 years ---	8	8	--	--
Totals ---------	225	184	26	15

In addition to these forty-one patients who gave reactions as noted in Table I, eight gave severe reactions with all of these symptoms.

In spite of the fact that the number of injections and the quantity of each injection was the same for each vaccinated individual in this institution, constitutional symptoms were relatively no more frequent in the young than in the older patients. Forty-one patients showed mild constitutional symptoms of influenza, consisting of rise in temperature or nausea or vomiting or coryza or headache. The duration of symptoms was for twenty-four hours or less. The constitutional reaction almost invariably occurred within an hour or so after the second injection. In one of the buildings, consisting of tuberculous patients, the constitutional effects of the vaccine, as far as could be noted, differed in no way from those without this pulmonary complication.

In tabulating the results after the epidemic, it was noted that some of the patients having the severest reactions from the vaccination developed influenza, although the interval was from four days to thirty-six days after receiving the vaccine. Therefore the reaction from vaccination did not indicate the susceptibility of the individual to infection.

When the first inoculations of vaccine were given, on October 6, there were no cases of influenza in the Monson State Hospital. A few hours after these were completed one inmate developed typical symptoms of influenza. There were no more cases until October 12, when five cases were discovered.

Clinically some of the fatal cases did not have pneumonia, but the work of Dr. Wolbach and Dr. Christian at the Brigham Hospital indicates that none of the fatal cases escape this complication, and we therefore assume that all such cases in this experiment were complicated by pneumonia. Although the patients consisted almost entirely of epileptics, influenza seemed to have no effect on the number of seizures of infected individuals.

Table III illustrates the effect of vaccine upon the course of the disease. We have taken the temperature as a criterion for the severity of the infection.

Table III.—Comparison of Effect of Vaccine on Fever as a Symptom.

	Average No. of Days of Fever	Av. Temperature (Degrees)	Av. No. of Days of High Temperature
Vaccinated patients	5	102.0	1.7
Unvaccinated patients	5½	102.8	2.0

From this table it is evident that vaccination had no demonstrable effect upon the course of the disease. Of course this tabulation considers only non-fatal cases.

In addition to the experimental study carried on in Monson State Hospital, the following description is given of the use of the same influenza vaccine for prophylaxis in other state institutions. For one reason or another, no conclusive proof as to value of the vaccine as a prophylactic could be obtained in any of them. The reason or reasons will be stated as each of the institutions is considered.

Taunton State Hospital for insane consists of a total population of 1,400, almost entirely adults, of whom about 800 were vaccinated. Eighty-one cases of influenza occurred after vaccination, of whom 17 developed a fatal pneumonia. No conclusions, however, can be drawn from this experiment, because the epidemic was decidedly on the wane when vaccinations were begun.

Gardner State Colony consists of 940 inmates and attendants, of whom about 834 were vaccinated. Ninety-five of the unvaccinated patients were infected before vaccination was begun. In the entire institution there were 157 cases, giving a morbidity rate of 16 per cent. The mortality rate of this instituton was unusually low, there beng only 13 fatal cases, a mortalty rate of 8.2 per cent. In this institution the vaccination was started after the incidence reached its highest.

Danvers State Hospital consists of a total population of 853, mostly adults. About one-third of the patients were vaccinated with an unheated vaccine supplied to us through the kindness of Dr. Rosenau of the Chelsea Naval Hospital; another third was vaccinated with the vaccine used throughout the other groups, and one-third of the patients were left as controls. The epidemic had reached its height when the vaccinations were begun, and no conclusive evidence as to the difference and effect of these types of vaccines can be determined, nor as to the usefulness of vaccines generally for prophylaxis.

Massachusetts School for the Feeble-Minded, with an entire population of 1,548, of whom 457 inmates were selected for experimental purposes. Two hundred and thirty-four of these patients were vaccinated, of whom 56 developed influenza, with two pneumonias, giving a morbidity rate of 23.9 per cent. Of the 223 unvaccinated inmates, 185 developed influenza, with 16 pneumonias and 12 deaths, giving a morbidity rate of 82.9 per cent and a mortality rate of 6.4 per cent. It will be noted in this institution that there were no deaths among the vaccinated patients in spite of the high morbidity rate of this group. The impression given to the attending physicians in this institution was that the vaccine made the symptoms less severe in the infected, but on the whole, prolonged the course of the disease. In this institution one is dealing with patients from four years of age to senility, but chiefly patients in the second decade of life. The absence of mortality among the vaccinated in this institution would seem to be due to the fact that the subjects selected for vaccination were from groups who were working almost entirely with the preparation of food, therefore representing a well-fed and vigorous group. The unvaccinated controls represented inmates of a lower grade mentally and in many instances physically. It is evident, therefore, that this experiment failed to give evidence of value as to the prophylactic merit of the vaccine because of the manner of selecting the individuals for vaccination. In all there were about 800 cases of influenza in the entire institution.

Wrentham State School represents a total population of 1,326, chiefly in the second decade, but including attendants and physicians, 128 of whom were vaccinated. Of these 128 vaccinated inmates, 13 developed influenza, 1 being complicated by pneumonia; there was 1 death, representing a mortality rate of 0.8 per cent, and a morbidity rate of 10 per cent. Of the 1,198 unvaccinated patients, 758 developed influenza; morbidity rate, 63 per cent. Physicians in this institution believe that those who had received the vaccine were not as ill as those who had not. No definite facts were produced in support of this impression. This institution gave no information as to the prophylactic value of the vaccine, because the epidemic was well under way before the vaccinations were begun. Hence the susceptible individuals were in large part either affected or infected with the disease.

Medfield State Hospital consists of a total population of 1,940, of whom 902 were vaccinated. There were 421 cases of influenza, with 63 deaths, before the vaccination was begun. Since vaccination only one unvaccinated patient developed influenza, and there were none among the vaccinated. Prior to vaccination there were three deaths of influenza uncomplicated, 46 complicated with bronchopneumonia and 14 with lobar pneumonia, making a mortality rate of 15 per cent. The morbidity rate of the entire group was 21 per cent before vaccinations were begun. In this institution the epidemic had practically spent itself before vaccination was begun.

Northampton State Hospital consists of a total population of 1,007 patients, of whom 563 were vaccinated. One of these after vaccination showed all of the constitutional symptoms of the disease, with a temperature of 101.4, and was sick in bed for three days. This was probably a slight attack of the disease itself. Fourteen other patients had severe constitutional symptoms, as the effect from the vaccination. There were 9 cases of influenza among the 444 unvaccinated, of whom 7 developed pneumonia and 4 died, making a morbidity rate of 1.5 per cent, and a mortality rate of 44 per cent. Of the 563 vaccinated patients, 9 developed influenza, one being complicated with pneumonia. None of the vaccinated cases were fatal. The morbidity rate in this group was 2 per cent. In this institution the incidence was too small in both the vaccinated and unvaccinated groups to draw any conclusion as to the value of vaccine.

Westborough State Hospital consists of a total of 1,238, of whom 506 were vaccinated. Fifteen of the vaccinated developed influena, of whom 2 were complicated by a fatal pneumonia, giving a morbidity rate of 2.9 per cent, and a mortality rate of 13 per cent.

Of 415 unvaccinated controls, 25 developed influenza (morbidity rate of 5.9 per cent), of whom 6 were complicated by pneumonia. There were no fatalities. One hundred and twenty-one of the vaccinated patients had more or less severe constitutional symptoms as a result of their inoculations. In this institution vaccinations were begun when the disease had just broken out in the community. The Lyman School near by had been severely attacked. At the time the vaccinations were completed only 13 cases had developed influenza. If evidence as to the usefulness of the vaccine had been based on an institution under these conditions one might infer that the use of the vaccine had prevented the further spread of the disease. The Monson experiment shows conclusively the error one might fall into by so concluding. The incidence of the disease in this institution is typical of a mild epidemic. The reasons for this are inexplicable in the present state of our knowledge as to the mode of spread of the disease.

Psychopathic Hospital.—Vaccine was used in the Psychopathic Hospital among a few of the new patients, but the ever changing population in that institution—it being largely an observation hospital—did not permit of the accumulation of any valuable statistics.

Worcester State Hospital, consisting of a total population of 1,542, used the vaccine after the epidemic was entirely over. Statistics from this institution, therefore, were of no value in determining the prophylactic merit of the vaccine.

Reformatory for Women, at Sherborn, consisting of a total population of 360, had three cases of influenza when the epidemic first broke out. There were no additional cases up to November 30. The vaccine was used on a limited number of cases there after the infection had reached its height in the surrounding community.

Bridgewater State Hospital, consisting of a total population of 853 adults, is included because the morbidity and mortality rates of this group, where no vaccine was used, does not differ greatly from those at Monson, where the conditions for the experiment were ideal. The morbidity rate was 29.9 per cent, as contrasted with 32.9 per cent among the unvaccinated of Monson. The mortality rate among the vaccinated at Monson was 5 per cent higher than at Bridgewater, although the rate among the entire population at Monson was slightly higher, being 15 per cent, as compared with 12 per cent at Bridgewater.

Summary.—This was an experimental study which involved the vaccination of over 6,000 individuals, representing slightly less than one-half the population of twelve institutions, with a heated suspension of influenza bacilli. Of the institutions represented, only one, the Monson State Hospital, proved to be suitable for conducting the experiment, upon which the following conclusion is based:

Conclusion.—The heated suspension of influenza bacilli used as a prophylactic vaccine did not prevent influenza, lessen its severity, nor its complication, and, as far as could be ascertained, resulted in no harm.

NOTE.—Acknowledgment is hereby made for the valuable services rendered by the United States Public Health Service through Dr. Warren S. Draper. During the first part of this experiment Dr. C. J. Longstreet, of the Public Health Service, worked at Monson and Northampton. His recall to another service necessitated the assumption of his work by one of us, Dr. Edna S. Kane.—The Commonhealth, Massachusetts State Board of Health.

UNITED STATES FEDERAL TRADE COMMISSION DISMISSES COMPLAINT FILED AGAINST VICTOR ELECTRIC CORPORATION LAST JUNE.

At a regular session of the United States Federal Trade Commission, held in Washington, D. C., March 10, 1919, the complaint against the Victor Electric Corporation was ordered dismissed and discontinued. We congratulate the officers and members of the Victor organization on this vindication|

The personnel of the Victor organization is largely made up of pioneer workers in the x-ray and physical therapy field, and we have always believed that these men (who are directing the policies of the Victor Electric Corporation) have been actuated by a desire to elevate rather than to lower the standard of business ethics in their field.

The Victor Corporation is to be congratulated upon having had this opportunity of having the government searchlight turned upon its activities, and the clean bill of health which the Corporation has received should be an inspiration to its officers to continue to be guided by those ideals which should be kept in constant view by all who are engaged in an industry so closely allied to medical science.

It's one of the easiest things in the world to tell how it should be done, and the hardest thing in the world to do it—this program business, we mean. If one man could make it and run it and compel full compliance with all promises made him, it would not be so hard. Several papers on the Nashville program were called three times during the three days meeting and were not read. But the fellow who made the program caught the usual skinning, just the same.

There is no good reason now why every county society in this state should not do a good year's work. It all depends on the individual member, one of whom you are which.

THE JOURNAL
OF THE
TENNESSEE STATE MEDICAL ASSOCIATION
Devoted to the Interests of the Medical Profession of Tennessee

Office of Publication, 601 Cedar Street, Nashville, Tenn.

APRIL, 1919

EDITORIALS

SOME REFLECTIONS OF A RECENT PRESIDING OFFICER.

Having had the honor, and I may add, great pleasure, of presiding over the Tennessee State Medical Association during its recent very successful meeting in Nashville, there occurred to me during this time some ideas of various improvements—at least they seemed to me improvements—that might be made in the conduct and arrangement of these annual meetings, and therefore I am dashing into print, with the temerity born of this experience, to offer some suggestions along this line.

In the first place—and here I can appreciate the difficulty that would present to our exceedingly capable Secretary—a preliminary program separate from the Journal should be printed, and mailed to the members of the Association two weeks before the meeting, and this program should be arranged in morning and afternoon sessions, so that the essayists could get an idea about when they are to be called, and the presiding officer should adhere rigidly to this order. There would be corrections and additions to be made in the final official program, but the majority of the essayists would have a fairly definite idea as to when they were coming on the regular program.

I know that this might appear impracticable at first, for at this last meeting, as our Secretary informed me, three weeks before the meeting he had almost no titles for the program, and when the contributions did come, they came in a rush, with the result that he received more titles of papers than he really needed for the program. But if contributors to future programs realized that getting on the program depended upon their having their titles in early, and that a preliminary program was to be issued, I believe they would send the titles in more promptly. Furthermore, a limited number of titles for the program, with a definite time scheduled for their being called, would insure the presence of most of the essayists, and there would not be so many to fail to appear, owing to the fact that they did not know when they were to be called, as happened at this last meeting. Several of those who contributed titles to the program, who I know would have read papers of unusual merit, have assured me that if they had known the day on which they were to appear, they would have been on hand with their papers. It may be argued that, if a meeting is worth attending at all, two days should be spared to it, but every doctor knows that circumstances arise which may prevent a member from attending for the entire time of the meeting, whereas he could give one day to it. As a general rule, most of the members who attend a meeting remain for two days, if not three, but a great many of them find that one day is all they can spare at that time.

The next comment that I desire to make is likely to occasion some controversy, and I am afraid my brood brothers will cry out, "Heresy!" yet I am going to be the "fool who rushes in where angels fear to tread," and come out openly in advocacy of doing away with the Section on Diseases of the Eye, Ear, Nose and Throat. Either this, or limit the meeting of this section to a half day, and put some of the papers on the general program. There are lots of special societies where we can read our papers and discuss them, and there are a great many members of the Association, who attend the general meeting, who would like to have, and really need, some education along the eye, ear, nose and throat line. Doubtless a majority of the members of the Association who attend our annual meetings have found it necessary at times to minister to the ordinary eye, ear, nose and throat troubles, where the superior skill of a specialist cannot be had, and a few papers on the general program, which would discuss the commoner diseases of the eye, ear, nose and throat, would be valuable to these members. In the final analysis, the purpose of an organization like the Tennessee State Medical Association is to benefit the general practitioner more than the specialist, and those of us whose lines fall in special fields should endeavor to contribute something of benefit to the general practitioner to the annual program.

If I may be permitted a spasm of, I trust, pardonable pride, I may say, en passant, that we kept the program right up to the notch at this last meeting, and I mention this only because this has been too common a fault with presiding officials over medical society meetings, to allow the program to lag, and the discussions to drift afar from the subject in hand, and thus to crowd out essayists who were ready with their papers. Is there anything more discouraging to prospective contributors to a medical society program, and is it not easy to keep things moving along this line?

Finally I take the liberty of saying a word or two about the hospitality of the Nashville members of the Association. The dinner given at the Golf and Country Club on Wednesday evening, which was the social feature of the meeting, was unusually excellent in quality, well served, and lasted just long enough. The Nashville men set a mark for entertainment at which our other cities who will be hosts of the Association in the future will have to shoot.

RICHMOND McKINNEY.

VETOED BY THE GOVERNOR.

"House Bill No. 235, providing for the control and prevention of venereal diseases, is returned without my approval. The druggists in this city, who advised me that they are members of a legislative committee, representing the druggists of the state, appeared before me and insisted that Section 8 would work a very great hardship on them, that it would be practically impossible for them to keep the records required by that section of the bill.

"I have gone over the bill carefully, section by section, with one of the highest medical officials in the state, and he advises me that this bill is not workable—in fact, that it is impossible to secure even a modicum of compliance with its terms by a great many physicians of the state. He says that it would expose innocent people many times, although the physician treating the case might be entirely honest in his judgment. He also said that medical skill has not been able to determine just when any case is non-infectious.

"I am in full sympathy with the purposes of this bill, and would be very glad to approve the bill if it were so modified as to make it a little more elastic in its operations, both as to physicians and druggists.

"A strict enforcement of the law would require a considerable sum of money to be expended by the state."

The above is the veto message of Governor Roberts, sent to the House of Representatives expressing his disapproval of House Bill No. 235, for the control of venereal diseases in Tennessee.

Our state is now one of the very few which are not making any effort for the suppression of venereal disease, and not receiving any benefit from the Chamberlain-Kahn funds.

TUBERCULOSIS IN TENNESSEE IN 1918.

There were reported to the State Board of Health in 1918 from the ninety-six counties and the five largest cities of Tennessee, 4,551 deaths from tuberculosis. This is an increase of 103 over the number of deaths from this disease in 1917.

The number of deaths of white persons from tuberculosis in 1918, as compared with 1917, shows a decrease of 117, while the number of colored persons dying from this cause in 1918 exceeded the 1917 figures by 220. In 1918 there were 2,648 deaths of white persons, as against 2,765 in 1917, and 1,903 of negroes, as against 1,683 in 1917.

Of the total deaths from tuberculosis last year, 4,129 were due to consumption, or pulmonary tuberculosis, while 422 were from all other forms of tuberculosis. As compared with 1917, an increase is shown in the number of deaths from pulmonary tuberculosis of 109, while a slight decrease—6 deaths—is shown in the number of deaths due to all other forms of tuberculosis.

Of the 4,129 who died from consumption or pulmonary tuberculosis last year, 2,380 were white and 1,749 were negroes. There was shown a reduction in the number of deaths of white persons of 68, and an increase of 177 in the number of deaths of negroes, as compared with the year 1917.

From all forms of tuberculosis other than consumption there were 422 deaths in 1918, of which 268 were whites and 154 negroes. Here again a decrease is noted for deaths of white persons and an increase in the deaths of negroes, the decrease amounting to 49 and the increase to 43.

The total number of deaths from tuberculosis in the five largest cities of the state—Memphis, Nashville, Chattanooga, Knoxville and Jackson—was 1,043, which shows 132 more than in 1917. The total number for the rural districts and towns of the state was 3,508, which is a decrease of 29 deaths from the 1917 record.

The tuberculosis rate per 100,000 population for the entire state for the year 1918 was 197.4, as compared with a rate of 192 in 1917.

Death registration has improved very markedly in a number of counties within the past year, but there are yet a few counties from which full reports are not received.

TUBERCULOSIS, 1918.

County.	No. Deaths Pulmonary Tuberculosis.		No. Deaths All Other Forms.		Total Deaths.
	White.	Col.	White.	Col.	
Anderson	14	3	2	--	19*
Bedford	14	19	2	2	36*
Benton	20	1	2	--	23**
Bledsoe	6	--	--	1	7**
Blount	30	16	4	1	51**
Bradley	24	8	7	1	40**
Campbell	8	3	--	--	11*
Cannon	21	--	1	--	22*
Carroll	36	11	2	1	50*
Carter	33	2	5	--	40**
Cheatham	16	5	1	2	24**
Chester	7	12	--	--	19**
Claiborne	19	1	2	--	22**
Clay	15	1	2	--	18**
Cocke	28	3	3	1	35*
Coffee	22	6	5	1	34**
Crockett	9	10	1	--	20*
Cumberland	7	--	--	--	7*
Davidson	104	71	7	2	184**
***Nashville	90	140	20	28	278**
Decatur	15	1	3	--	19*
DeKalb	30	3	--	--	33**
Dickson	18	16	4	1	39**
Dyer	21	22	1	3	47*
Fayette	7	55	--	2	64**
Fentress	3	--	--	--	3*
Franklin	20	5	4	2	31*
Gibson	42	47	8	7	98**
Giles	32	40	7	5	84**
Grainger	30	--	2	--	32**
Greene	44	3	8	--	55*
Grundy	4	--	1	--	5**
Hamblen	15	5	2	1	23*
Hamilton	86	14	7	--	107*
***Chattanooga	47	88	9	8	152**
Hancock	11	--	--	--	11**
Hardeman	16	43	1	3	63**
Hardin	14	3	1	1	19**
Hawkins	28	--	4	--	32*
Haywood	17	68	--	3	88**
Henderson	17	4	2	1	24*
Henry	20	18	6	4	48**
Hickman	10	5	1	--	16*
Houston	1	4	--	--	5*
Humphreys	20	4	--	--	24*
Jackson	14	--	2	--	16*
James	6	2	--	--	8*
Jefferson	26	6	1	2	35**
Johnson	10	--	1	--	11*
Knox	40	6	4	--	50*
***Knoxville	80	41	11	6	138**
Lake	8	3	11	--	12**
Lauderdale	7	26	1	--	34*
Lawrence	21	3	3	--	27*
Lewis	5	3	--	--	8**
Lincoln	33	13	5	1	52*
Loudon	16	4	--	1	21!
Macon	24	2	3	--	29*
McMinn	24	20	2	--	46*
McNairy	19	4	1	--	24**
Madison	15	27	1	1	44*
***Jackson	16	21	1	2	40*
Marion	8	2	1	--	11*
Marshall	25	18	3	2	48**
Maury	35	54	3	3	95**
Meigs	2	2	1	--	5!
Monroe	18	2	3	--	23*
Montgomery	37	54	4	3	98**
Moore	10	--	1	--	11**
Morgan	9	2	1	--	12*
Obion	33	15	2	2	52*
Overton	12	--	2	--	14*
Pickett	7	--	--	--	7**
Perry	14	1	2	--	17**
Polk	11	--	1	--	12*
Putnam	25	3	3	--	31*
Rhea	13	3	2	--	18*

County.	No. Deaths Pulmonary Tuberculosis.		No. Deaths All Other Forms.		Total Deaths.
	White.	Col.	White.	Col.	
Roane	37	8	5	1	51**
Robertson	42	24	2	2	70*
Rutherford	29	38	2	3	72*
Scott	14	--	--	--	14**
Sequatchie	3	--	--	--	3 !
Sevier	20	2	1	--	23**
Smith	30	8	2	2	42*
Stewart	15	8	1	--	24*
Sullivan	25	8	7	1	41*
Shelby	32	143	--	10	185**
***Memphis	117	278	16	24	435**
Sumner	34	23	--	2	59*
Tipton	25	22	--	2	49**
Trousdale	7	6	1	--	14*
Unicoi	5	--	--	--	5*
Union	11	--	1	--	12*
Van Buren	2	--	--	--	2 !
Warren	27	10	2	1	40*
Washington	73	9	5	1	88**
Wayne	13	2	2	--	17**
Weakley	40	9	8	--	57*
White	14	1	1	--	16*
Williamson	16	21	5	4	46**
Wilson	35	33	4	3	75*

Total pulmonary tuberculosis	4,129
Total other forms	422
Total all forms	4,551

Total.	Pulmonary.	Other forms.	
White	*2,380	*268	2,648
Colored	**1,749	**154	1,903
Totals	**4,129	*422	**4,551

Nashville	278
Chattanooga	152
Knoxville	138
Jackson	40
Memphis	435
Total cities	**1,043
Rural	*3,508

Rate on basis 1917 population:
Pulmonary tuberculosis, 179.1 per 100,000.
Tuberculosis, all forms, 197.4 per 100,000.
***Cities. *Decrease. **Increase. ! Same as last year.

SOME ADVERTISING!

Old Brother Peruna Hartman was generally considered to be *some* advertiser; Old Man Kidney Pills Doane has been thought of as a man who could be depended upon to keep his products before the gentle public, and Sister Lydia Pinkham and her consorts and co-operates were and are pretty fair slingers of the useful commodity known as "printer's ink." But nothing they ever put out in their grandest efforts can in any way compare with the outburst of laudation and glorification contained in the effusion given just under this paragraph, which same is taken from the News-Banner, of ————, Tenn. We have deleted names only because we are receiving no compensation for the space here used, while we entertain a gentle suspicion that the News-Banner *did* receive some:

"A REMARKABLE CASE.

"No other surgical operation ever performed in West Tennessee has attracted anything like the attention than has the recent Cæserian operation performed recently by Dr. ———— upon Mrs. ——— ————. The ———— home is between ——— ——— and ————. When Dr. ———— arrived, the patient was unconscious and in a dying condition. The blue tinge that precedes death had already set in; with lightning like rapidity, the doctor made his decision. He telephoned the hospital for an instant operation. The patient was lifted on a stretcher, placed in an automobile, and in less than thirty minutes was on the operating table. In spite of the fact that she was at death's door with uremic convulsions, Dr. ———— took the one chance in a thousand and operated. A longitudinal abdominal incision was made, and two fine boys weighing five and one-half pounds each delivered. The mother was unconscious for five days after the operation and then roused up and recovered. She seemed to be making good progress until last Sunday afternoon, when she was laughing and chatting, and had just asked to see the babies, when her heart failed and she suddenly expired. The two boys are growing and fattening every day.

"This is a very celebrated case, as we are told that there is not on record where twins were ever before delivered by the Cæsarian operation. It must unquestionably be admitted that Dr. ————s' surgical skill, as well as his characteristic of instantaneous decision and action, saved these two babies from the very jaws of death.''

''Well,'' we hear you say, ''that does pretty well not to be composed by a regular, paid advertising man.'' Yes, we think it does. But wait. On that same front page of that same News-Banner appears the ''——— Hospital Notes,'' which same have to do with the comings and goings of doctors bringing patients to the said hospital—one of 'em brought ''another patient''—and with the comings and goings and doings of some four patients, and with the donation by a county Red Cross organization of some 500 yards of gauze to the aforesaid hospital, which same belongs to the aforesaid glorified Dr. ———.

Now, it do seem that one fellow and his one hospital in one town of one county of one state would be eminently satisfied to get this much advertising in one number of one News-Banner, but they do say that it's a weekly occurrence.

There can be no doubt but that Dr. ——— is a wizard of the knife, a chance-taker *par excellence,* and an instantaneous decider, than which none more instantaneous nor decided ever bloomed in any city, but we want to know if it is not stretching a figure just a leetle too much to say that the babies were saved ''from the jaws of death?''

P. S.—On the same front page of the same News-Banner we note a modest little statement to the effect that the ——— County Medical Society had its meeting in the City Hall. The names of the physicians in attendance are given. We fail to find Dr. ———'s name on the list.

WEST TENNESSEE MEDICAL AND SURGICAL ASSOCIATION.

The West Tennessee Medical and Surgical Association will hold its twenty-seventh annual meeting at Dyersburg on Thursday and Friday, May 22 and 23, 1919.

This will be the first meeting since the war, and many of the physicians and surgeons who participated in the awful struggle will be on hand to greet each other and their many friends among the profession.

Great preparations are going to be made by the local members of the Association, and Dyersburg is a good place to hold a meeting, as all of us know, having been there.

Now please select a subject for a paper to be read by you, and mail the title to the Secretary at once, before you forget it. If you don't want to read a paper, then select a lot of cases of interest and report them as they came in your practice. If you don't mind, why report your failures as well as your successes in the management of cases.

If you have never contributed anything before, do it now. We need what you have seen in your practice.

You know that nearly everybody that attends the meetings of this Association testifies that it is one of the very best in the whole country. But we can't have a meeting without material for the program, and you are most cordially invited and requested to make your contribution, be it small or great. We expect you to respond right away.

Cordially yours, I. A. McSWAIN,
Secretary.

REPORT OF SECRETARY.

To the House of Delegates:

The past year, the most momentous in the history of the world, has been crowded with work for every individual who has been worth counting. In bringing about the great triumphal developments which have marked the year, the medical profession of our nation has played a full part, and the doctors of Tennessee have manfully carried their reasonable share of the responsibilities which conditions have imposed upon the profession. In the camps and cantonments at home and in the hospitals and in the trenches of practically every disputed battle area in Europe, Tennessee physicians have ministered to our soldiers; in navy yards and in ports and harbors, on great battleships and on tiny destroyers, on many seas, Tennessee doctors have ministered to our sailors. By far the greater number of the medical men of this state who have given themselves to the military service of the nation in the great world crisis have been men from the ranks of the Tennessee Medical Association. Wherever the records have been made, so far as has become apparent, Tennessee doctors have acquitted themselves with credit to their state and country. Some of them sleep in France.

Upon those whose lot was to stay at home devolved responsibilities no less grave than were those assumed by our fellows who went to the far corners of the earth with the flag. In the work of the draft boards and the advisory boards, on committees and commissions of various sorts created by Government demands, in the campaigns for Liberty Loans and for Red Cross support, in meeting the needs of the civil population with respect to medical care, in manning our hospitals and medical schools, in fighting a bitter fight against the most terrible epidemic scourge our state has ever known, in contributing to the limit of their funds for every demand of the Government and of their individual communities, in active participation in every scheme and plan for maintaining the public morale and for upholding the hands of our governmental authorities, Tennessee doctors have done men's work and have played men's parts. And here at home, too, some of our fellows have "paid the great price" no less heroically than did those who sleep in France.

It may be—perhaps is—true that here and there the hand of a slacker has been shown, just as it may be true that here and there a man in uniform has used his uniform and his commission for his own glorification and for his own selfish purposes. But such instances, if any there have been, have been so rare that they have served only to magnify the glory of the record of the real, true medical profession as it has been written in Tennessee.

With so many of our members in military service and with the overwhelming press of duty that has exacted the most extreme exertion from our members left at home, it has been well-nigh impossible to maintain active medical organization in the state in the past year. It is a remarkable fact that the enrollment for 1918 in our Association shows a loss of only 40 members, 1,579 names having been reported for 1918 as against 1,619 for 1917. This loss seems to have been due, as far as can be determined, almost entirely to a failure to keep the names of members who entered military service on the rolls of their respective societies.

From the standpoint of organizational efficiency, in spite of the fact that the membership of our society has been well maintained, the year has been almost a complete blank. It has been altogether impossible for county societies to hold meetings and to carry on the usual activities. Only a few of the county organizations have held meetings with any degree of regularity, and the scientific work of the component societies and of the state organization has been well nigh suspended. This condition of affairs has been unavoidable because it has been absolutely necessary to sink professional interests as expressed in medical organization in the interest of the common good.

Losses in membership are reported for the year in Bedford, Blount, Bradley, which county was unorganized in 1918, Campbell, Crockett, Cumberland, Davidson, Fayette, Giles, Hawkins (unorganized in 1918), Hamblen, Hamilton, Hardeman, Haywood, Henry, Hickman, Lauderdale, Lincoln, Loudon, Macon, Maury, Madison, Marshall, Obion, Rhea, Roane, Rutherford, Smith, Sullivan-Carter-Johnson, Tipton, Unicoi (unreported for 1918), Washington, Williamson.

Gains in membership were reported in Coffee, Carroll, Chester, Cocke, Decatur, Dickson, Dyer, Gibson, Greene, Hardin, Jefferson, Knox, Lake, Montgomery, McMinn, McNairy, Overton, Polk, Putnam, Robertson (re-organized in 1918), Sevier, Sumner, Warren, Weakley, White, Wilson.

The 1917 membership was exactly maintained in Anderson, Grundy, Henderson, Jackson, Monroe, Scott, Shelby.

No new societies were organized during the year, though the Robertson County Medical Society, which suspended for a while, was reorganized, and the McMinn County Society, unreported in 1917, re-entered the Association in 1918.

Bradley, Unicoi and Hawkins Counties seem to have given up their organizations, since no reports have come from any of the three.

All committee work of the State Association was suspended during the past year.

The Journal has come through the year

without added prestige. It has been exceedingly difficult to keep the wheels turning. For several months the editor has not known where material for the next succeeding issues would be secured. Comparatively few papers were read at Memphis last year, and of those which were read, a number were never sent to the Journal for publication. It is a matter altogether with the members of the Association as to whether or not the Journal shall succeed. One thing is very certain—a journal cannot be maintained without material. If all papers read at annual meetings shall be given to the Journal, as is required that they shall be, then there will be little difficulty in securing the necessary matter for the body of the Journal. Otherwise, it will not be possible to continue the organ on the former basis.

The income of the Association has been very satisfactory, and an effort has been made to keep expenditures down to the lowest possible point. There was a decrease in the advertising income for the year of $156.87, while the income from membership dues showed an increase of $614.35, medical defense assessments being included in the statements for the years 1917 and 1918.

Total expenditures increased $125.09 over the expenditures of the preceding year.

The Secretary has engaged in every Government activity in which his services have been called for, and has done his earnest best to represent this Association worthily. The Journal has been absolutely at the disposal of the Government and in every respect, as far as has been within the power of the Secretary to accomplish, the Tennessee State Medical Association has been put on record as an organization loyal to the flag of our country.

The Co-operative Advertising Bureau of the American Medical Association has secured most of the advertising which has appeared in the Journal, and the service which has been furnished by this bureau has been entirely satisfactory and helpful.

Most grateful acknowledgement is here made for the kindly co-operation and the valuable assistance of many kinds that have come from county secretaries and from other officers of local societies and from the officers of the Association.

All money paid into the Association passes through the office of the Secretary and is transmitted to the Treasurer. No expenditures are made except by check of the Treasurer. A detailed statement of all items of income and expenditure is hereto appended.

It is very gratifying to be able to report that the enrollment for the current year is considerably in excess of that of last year. The record of the Memphis and Shelby County Medical Society is rather remarkable. The membership of this society, 225 in 1918, has been nearly established in full for the current year, since 212 names have been reported.

In conclusion, as in former years, your Secretary would plead for an increased interest in the affairs of our Association and in the affairs of organized medicine generally. There is no other channel through which the interests of the public as they may be affected through medical men can be better protected, and there is absolutely no channel through which the interests of the profession itself can be advanced.

Very respectfully submitted.

OLIN WEST, Secretary.

April 8, 1919.

REPORT OF TREASURER.

ADVERTISING—CASH.

April.		
1.	City View Sanitarium	$ 7.50
6.	Highland Sanitarium	15.00
6.	Newell & Newell Sanitarium	5.84
13.	Fairchild Bros. & Foster	7.50
13.	Dr. Ed Culp, 1 year's subscription	2.00
13.	Nashville Surgical Supply Co.	5.42
13.	Ambrose Printing Co.	3.33
13.	Louisville Neuropathic Sanitarium	4.00
16.	Geo. S. Johnston Co.	75.81
16.	Parke, Davis & Co.	7.13
16.	Dr. Allen H. Bunce	5.00
17.	Co-operatie Med. Adv. Bureau	93.01
19.	Oxford Retreat	2.50
24.	Petty & Wallace	7.50
22.	Armour & Co.	7.00
26.	H. K. Mulford	9.50
26.	Lynnhurst Sanitarium	15.00
26.	Cincinnati Sanitarium	5.00
		$278.04

May.

4.	Theo Tafel Co.	$ 15.00
6.	Dr. S. S. Galbraith	5.00
11.	Nashville Surigcal Supply Co.	5.42
7.	Louisville Neuropathic Sanatorium	4.00
14.	Dr. Allen H. Bunce	5.00
17.	Co-operative Med. Adv. Bureau	81.30
17.	H. K. Mulford Co.	9.50
18.	Drs. Newell & Newell	2.92
18.	Armour & Co.	7.00
19.	Oxford Retreat	2.50
21.	Ambrose Printing Co.	3.33
24.	Fairchild Bros. & Foster	7.50
24.	Cincinnati Sanitarium	5.00
		$153.47

June.

4.	Jungermann's	$ 4.73
4.	City View Sanitarium	15.00
6.	Louisville Neuropathic Sanatorium	4.00
8.	Parke, Davis & Co.	7.13
10.	Dr. Katherine L. Storm	7.50
11.	Ambrose Printing Co.	3.33
11.	Nashville Surgical Supply Co.	5.42
12.	Dr. Allen H. Bunce	5.00
19.	Co-operative Med. Adv. Bureau	106.80
19.	Oxford Retreat	2.50
21.	Mrs. M. B. Littell	5.00
24.	Armour & Co.	7.00
27.	Fairchild Bros. & Foster	7.50
		$185.91

July.

2.	City View Sanitarium	$ 7.50
5.	Theo. Tafel & Co.	10.00
5.	Parke, Davis & Co.	7.13
8.	Drs. Newell & Newell	5.84
9.	Louisville Neuropathic Sanatorium	4.00
11.	Nashville Surgical Supply Co.	5.42
11.	Dr. Allen H. Bunce Laboratory	5.00
11.	Ambrose Printing Co.	3.33
12.	Parke, Davis & Co.	7.13
13.	Oxford Retreat	2.50
15.	H. K. Mulford Co.	19.00
15.	Fairchild Bros. & Foster	7.50
17.	Co-operative Med. Adv. Bureau	77.67
19.	Armour & Co.	7.00
26.	Dr. Katherine L. Storm	2.50
29.	Cincinnati Sanitarium	5.00
30.	Dr. W. P. Robinson	2.00
30.	New Orleans Polyclinic	15.00
		$193.52

August.

6.	Louisville Neuropathic Sanatorium	$ 4.00
6.	City View Sanitarium	7.50
6.	Drs. Petty & Wallace	7.50
6.	Lynnhurst Sanitarium	15.00
10.	Ambrose Printing Co.	3.33
12.	Nashville Surgical Supply Co.	5.42
13.	Dr. Allen H. Bunce	5.00
15.	Co-operative Med. Adv. Bureau	78.63
16.	Drs. Newell & Newell	2.92
19.	Dr. Katherine L. Storm	2.50
23.	Armour & Co.	7.00
24.	Oxford Retreat	2.50
26.	The Cincinnati Sanitarium	5.00
		$146.30

November.

1.	H. K. Mulford Co.	$ 9.50
4.	Lynnhurst Sanitarium	15.00
4.	Southern Med. Assn. (subscription)	2.00
12.	Nashville Surgical Supply Co.	5.42
14.	City View Sanitarium	7.50
14.	Co-operative Advertising Bureau	86.85
15.	Dr. Allen H. Bunce	5.00
18.	Ambrose Printing Co.	3.33
19.	Drs. Newell & Newell	2.92
20.	Oxford Retreat	2.50
23.	Louisville Neuropathic Sanatorium	4.00
23.	Dr. Katherine L. Storm	2.50
25.	Parke, Davis & Co.	7.13
27.	Armour & Co.	7.00
29.	The Cincinnati Sanitarium	5.00
		$165.65

December.

5.	Petty & Wallace	$ 7.50
9.	Dr. Carlyle Yates (E. R. Squibb & Sons)	5.00
10.	Theo. Tafel Co.	10.00
10.	Nashville Surgical Supply Co.	5.42
10.	City View Sanitarium	7.50
10.	Louisville Neuropathic Sanatorium	4.00
12.	Dr. Katherine L. Storm	2.50
12.	Dr. Allen H. Bunce	5.00
12.	Ambrose Printing Co.	3.33
13.	H. K. Mulford Co.	9.50
14.	Co-operative Med. Adv. Bureau	92.25
14.	Fairchild Bros. & Foster	7.50
16.	Parke, Davis & Co.	7.13
18.	Oxford Retreat	2.50
20.	Drs. Newell & Newell	2.92
20.	Armour & Co.	7.00
30.	Fairchild Bros. & Foster	7.50
		$186.55

January.

2.	City View Sanitarium	$ 7.50
2.	Dr. Carlyle Yates (E. R. Squibb & Sons)	5.00
6.	Sub. to Jour., Dr. D. T. Atkinson, Tex.	2.00
9.	Louisville Neuropathic Sanitarium	4.00
10.	Dr. Katherine L. Storm	2.50
10.	Parke, Davis & Co.	7.13
13.	Co-operative Med. Adv. Bureau	89.06
15.	Co-operative Med. Adv. Bureau (bonus check)	41.00
15.	Theo. Tafel Co.	10.00
17.	Ambrose Printing Co.	3.33
20.	Armour & Co.	7.00
20.	Nashville Surgical Supply Co.	5.42
20.	Allen H. Nunce	5.00

20. H. K. Mulford Co.	19.00
20. Newell & Newell	2.92
25. The Oxford Retreat	2.50
26. Lynnhurst Sanitarium	15.00
27. Fairchild Bros. & Foster	7.50
27. The Cincinnati Sanitarium	10.00
	$245.86

February.

10. Louisville Neuropathic Sanitarium	$ 4.00
10. The City View Sanitarium	7.50
11. Nashville Surgical Supply Co.	5.42
11. Dr. Allen H. Bunce	5.00
12. Drs. Newell & Newell	2.92
13. Co-operative Med. Adv. Bureau	118.21
13. Dr. William Krauss	10.00
17. Dr. Katherine L. Storm	2.50
18. Ambrose Printing Co.	3.33
19. Fairchild Bros. & Foster	7.50
19. Parke, Davis & Co.	7.13
20. Armour & Co.	7.00
21. Medical Students Library Ass'n	4.00
24. Oxford Retreat	2.50
26. Petty & Wallace	7.50
27. The Cincinnati Sanitarium	5.00
28. H. K. Mulford Co.	9.50
	$209.01

March.

3. Abraham Weil, M. D. (sub. to Jour.)	$ 2.00
10. Theo. Tafel Co.	5.00
10. City View Sanitarium	7.50
11. Nashville Surgical Supply Co.	5.42
12. Dr. Allen H. Bunce	5.00
14. St. Thomas Hospital	5.00
14. William Krauss, M. D.	5.00
14. Ambrose Printing Co.	3.33
14. Co-operative Med. Adv. Bureau	94.77
17. Dr. Katherine L. Storm	2.50
20. Parke, Davis & Co.	7.13
21. Fairchild Bros. & Foster	7.50
24. Armour & Co.	7.00
24. The Watauga Sanitarium	17.52
26. H. K. Mulford Co.	9.50
26. The Cincinnati Sanitarium	5.00
29. Oxford Retreat	2.50
	$191.67

MEMBERSHIP CASH—1918.

From Secretaries.

April.

1. Dr. R. L. Maloney, Warren County	$ 18.00
1. Dr. Jno. M. Stewart, Weakley County	3.00
($10.00 Medical Defense.)	
1. Dr. H. P. Larimore, Hamilton County	8.00
1. Dr. H. D. Miller, Washington County	6.00
1. Dr. R. A. Brock, McMinn County	10.00
2. Dr. E. W. Cocke, Hardeman Co.	4.00
3. Dr. G. A. Brandon, Henderson County	2.00
4. Dr. H. C. Moorman, Fayette County	25.00
($10.00 Medical Defense.)	
4. Dr. J. W. Ogle, Sevier Conuty	4.00
4. Dr. Jno. P. Grisard, Franklin County	6.00
4. Dr. Milton Tharp, Davidson County	26.00
4. Dr. Otis S. Warr, Shelby County	128.00
($4.00 overpaid.)	
5. Dr. R. A. Brock, McMinn County	2.00
5. Dr. V. L. Lewis, Cumberland County	6.00
5. Dr. F. A. Zoller, Blount County	3.00
($1.00 Medical Defense.)	
5. Dr. W. K. Vance, Sullivan County	10.00
6. Dr. L. Hill, Jr., Tipton County	3.00
($1.00 Medical Defense.)	
6. Dr. W. N. Lynn, Knox County	42.00
6. Dr. Joe B. Lackey, Lauderdale County	3.00
($10.00 Medical Defense.)	
13. Dr. W. R. Irish, Campbell County	10.00
13. Dr. C. C. Patch, Rhea County	3.00
($1.00 Medical Defense.)	
13. Dr. Lex Dyer, Putnam County	$10.00
($1.00 Medical Defense.)	
13. Dr. H. P. Larimore, Hamilton County	1.00
($1.00 Medical Defense.)	
13. Dr. H. P. Larimore, Hamilton County	4.00
13. Dr. B. F. Runyon, Montgom'ry County	2.00
13. Dr. W. N. Lynn, Knox County	4.00
13. Dr. J. D. Carlton, Obion County	2.00
13. Dr. B. J. High, Smith County	2.00
13. Dr. J. L. Edward, Haywood County	19.00
($3.00 Medical Defense.)	
16. Dr. J. H. Wlliams, Carroll County	2.00
16. Dr. F. A. McClintock, Campbell Co.	2.00
16. Dr. T. A. Patrick, Lincoln County	4.00
17. Dr. K. S. Howlett, Williamson Co.	9.00
($1.00 Medical Defense.)	
18. Dr. J. H. Williams, Carroll County	2.00
18. Dr. G. C. Grimes, Giles County	6.00
22. Dr. W. S. Cooper, Scott County	10.00
22. Dr. W. S. Cooper, Scott County	4.00
($4.00 Medical Defense.)	
23. Dr. Otis Warr, Shelby County	100.00
24. Dr. H. P. Larimore, Hamilton County	6.00
24 Dr. W. W. Hill, Roane County	2.00
24. Dr. R. D. Miller, Washington County	3.00
($1.00 Medical Defense.)	
26. Dr. W. R. Irish, Campbell County	2.00
	$509.00
9-11. Cash collected at Memphis meeting	21.00
	$530.00

May.

2. Dr. Henry Lockhart, Grundy County	$ 2.00
3. Dr. W. K. Vance, Sullivan County	4.00
3. Dr. E. H. Jones, Rutherford County	8.00
3. Dr. R. A. Whitaker, Decatur County	8.00
($6.00 Medical Defense.)	
6. Dr. H. P. Larimore, Hamilton County	4.00
7. Dr. W. R. Irish, Campbell County	3.00
($1.00 Medical Defense.)	
13. Dr. J. M. Cox, Anderson County	3.00
($1.00 Medical Defense.)	
13. Dr. H. P. Larimore, Hamilton County	4.00
13. Dr. D. L. Flanary, Dyer County	7.00

16. Dr. G. A. Brandon, Henderson County	2.00
16. Dr. J. D. Carlton, Obion County_____	2.00
19. Dr. W. T. Bell, McNairy County_____	6.00
21. Dr. J. M. Cox, Anderson County____	3.00
($1.00 Medical Defense.)	
22. Dr. Jno. R. Parker, Sumner County__	3.00
($1.00 Medical Defense.)	
24. Dr. R. C. Gaw, Jackson County______	3.00
($1.00 Medical Defense.)	
30. Dr. L. Hill, Jr., Tipton County_____	6.00
($2.00 Medical Defense.)	
30. Dr. H. P. Larimore, Hamilton County	4.00
30. Dr. W. S. Cooper, Scott County______	3.00
($1.00 Medical Defense.)	
31. Dr. J. H. Williams, Carroll County___	4.00
31. Dr. Otis Warr, Shelby County_______	2.00
	$ 81.00
Medical Defense _________________	14.00

June.

5. Dr. F. A. Zoller, Blount County_____$	3.00
($1.00 Medical Defense.)	
21. Dr. H. P. Larimore, Hamilton County	22.00
22. Dr. L. Hill, Jr., Tipton County _____	3.00
($1.00 Medical Defense.)	
25. Dr. A. L. Richards, White County___	5.00
($1.00 Medical Defense.)	
26. Dr. T. M. Roberts, Monroe County___	3.00
($1.00 Medical Defense.)	
26. Dr. Milton Tharp, Davidson County__	8.00
	$ 44.00
Medical Defense _________________	4.00

July.

3. Dr. L. Hill, Jr., Tipton County_____$	3.00
($1.00 Medical Defense.)	
8. Dr. W. N. Lynn, Knox County_______	44.00
11. Dr. H. P. Larimore, Hamilton County	14.00
12. Dr. W. N. Lynn, Knox County_______	10.00
19. Dr. W. N. Lynn, Knox County______	6.00
23. Dr. W. K. Vance, Sullivan County____	2.00
30. Dr. Milton Tharp, Davidson County__	8.00
	$ 87.00
Medical Defense _________________	1.00

August.

3. Dr. Otis Warr, Shelby County______$	6.00
3. Dr. S. B. North, Bradley County____	2.00
7. Dr. B. M. Tittsworth, Jefferson County	6.00
($2.00 Medical Defense.)	
9. Dr. W. N. Lynn, Knox County ______	2.00
9. Dr. J. H. Jones, Crockett County____	2.00
9. Dr. Jno. P. Grisard, Franklin County_	2.00
10. Dr. Hartwell Weaver, Dickson County	4.00
13. Dr. H. P. Larimore, Hamilton County	5.00
($1.00 Medical Defense.)	
13. Dr. G. W. Moody, Bedford County___	2.00
14. Dr. F. F. Painter, Hamblen County__	3.00
($1.00 Medical Defense.)	
15. Dr. W. N. Lynn, Knox County _____	2.00
19. Dr. H. P. Larimore, Hamilton County	8.00
19. Dr. Geo. A. Brandon, Henderson Co._	2.00
23. Dr. L. Hill, Jr., Tipton County_____	6.00
($2.00 Medical Defense.)	
23. Dr. A. P. Smythe, Weakley County__	9.00
($1.00 Medical Defense.)	
23. Dr. H. P. Larimore, Hamilton County	2.00
23. Dr. W. R. Irish, Campbell County___	4.00
23. Dr. C. A. Abernathy, Giles County___	2.00
26. Dr. W. N. Lynn, Knox County_______	4.00
26. Dr. C. A. Abernathy, Giles County___	2.00
26. Dr. R. P. Beasley, Hickman County__	2.00
27. Dr. E. H. Jones, Rutherford County__	2.00
27. Dr. A. P. Smythe, Weakley County___	2.00
28. Dr. E. H. Jones, Rutherford County__	2.00
29. Dr. W. N. Lynn, Knox County ______	2.00
29. Dr. F. A. Zoller, Blount County_____	8.00
30. Dr. M. A. Beasley, Maury County____	2.00
	$ 95.00
Medical Defense _________________	7.00

September.

2. Dr. W. K. Vance, Sullivan County___$	2.00
2. Dr. H. P. Larimore, Hamilton County	4.00
2. Dr. Lex Dyer, Putnam County_____	3.00
($1.00 Medical Defense.)	
5. Dr. J. H. Jones, Crockett County____	2.00
6. Dr. J. L. McMillan, Decatur County___	2.00
6. Dr. S. M. Tittsworth, Jefferson Co.___	2.00
7. Dr. M. A. Blanton, Greene County___	2.00
10. Dr. D. L. Flanary, Dyer County_____	18.00
($4.00 Medical Defense.)	
10. Dr. D. L. Flanary, Dyer County_____	2.00
13. Dr. J. D. Carlton, Obion County_____	4.00
13. Dr. F. O. Geisler, Polk County______	4.00
14. Dr. Douglas Hayes, Grundy County__	2.00
16. Dr. T. M. Roberts, Monroe County___	4.00
($2.00 Medical Defense.)	
16. Dr. M. A. Blanton, Greene County___	2.00
17. Dr. W. S. Cooper, Scott County _____	6.00
17. Dr. H. P. Larimore, Hamilton County	10.00
17. Dr. H .P. Larimore, Hamilton County	1.00
($1.00 Medical Defense.)	
18. Dr. John P. Grisard, Franklin County	2.00
19. Dr. John P. Grisard, Franklin County	2.00
19. Dr. H. C. Moorman, Fayette County__	2.00
20. Dr. O. S. Warr, Shelby County______	4.00
21. Dr. A. P. Smythe, Weakley County__	2.00
23. Dr. H. P. Larimore, Hamilton County	2.00
24. Dr. B. B. Sory, Robertson County___	51.00
($7.00 Medical Defense.)	
25. Dr. E. H. Jones, Rutherford County__	2.00
26. Dr. A. B. Qualls, Overton County___	5.00
($1.00 Medical Defense.)	
27. Dr. R. C. Miller, Rhea County______	2.00
30. Dr. H. Hawkins, Madison County___	6.00
30. Dr. L. Hill, Jr., Tipton County______	3.00
($1.00 Medical Defense.)	
($1.00 Medical Defense.)	
	$153.00
Medical Defense _________________	17.00

October.

2. Dr. J. D. Carlton, Obion Countq____$	2.00

2. Dr. H. P. Larimore, Hamilton County	8.00
5. Dr. A. L. Rule, Knox County	6.00
7. Dr. J. D. Alexander, Lake County	2.00
16. Dr. W. S. Dotson, Wilson County	2.00
22. Dr. Otis Warr, Shelby County	2.00
24. Dr. Otis Warr, Shelby County	4.00
28. Dr. H. P. Larimore, Hamilton County	6.00
28. Dr. K. S. Howlett, Williamson County	2.00
30. Dr. F. A. McClintock, Campbell Co.	2.25
	$ 36.25

November.

7. Dr. J. W. Ogle, Sevier County	$ 2.00
7. Dr. Otis Warr, Shelby County	4.00
11. Dr. Otis Warr, Shelby County	4.00
21. Dr. H. P. Larimore, Hamilton County	4.00
27. Dr. John P. Grisard, Franklin County	4.00
29. Dr. H. P. Larimore, Hamilton County	6.00
	$ 24.00

December.

2. Dr. Otis Warr, Shelby County	$ 4.00
9. Dr. H. P. Larimore, Hamilton County	4.00
20. Dr. L. Hill, Jr., Tipton County	2.00
27. Dr. H. P. Larimore, Hamilton County	8.00
	$ 18.00

Nov. 21. Dr. H. P. Larimore, Hamilton Co.	$ 2.00
Dec.	
9. Dr. S. W. McFarland, Wilson Count	15.00
($1.00 Medical Defense.)	
10. Dr. Douglas Hayes, Grundy County	3.00
($1.00 Medical Defense.)	
12. Dr. R. Y. Fisher, Decatur County	10.00
18. M. A. Beasley, Maury County	22.00
30. Dr. A. F. Richards, White County	390.0
($13.00 Medical Defense.)	
31. Dr. B. W. Bagwell, Monroe County	39.00
($13.00 Medical Defense.)	

January.

1. Dr. B. J. High, Smith County	34.00
3. Dr. M. A. Beasley, Maury County	4.00
6. Dr. F. O. Geisler, Polk County	20.00
6. Dr. H. P. Larimore, Hamilton County	40.00
($4.00 Medical Defense.)	
13. Dr. D. A. McSwain, Henry County	3.00
($1.00 Medical Defense.)	
13. Dr. J. B. Blue, Shelby County	148.00
14. Dr. W. M. Brown, Overton County	3.00
($1.00 Medical Defense.)	
14. Dr. M. E. Rust, Dyer County	17.00
($5.00 Medical Defense.)	
15. Dr. W. T. Bell, McNairy County	7.00
($1.00 Medical Defense.)	
15. Dr. W. T. Bell, McNairy Co.	8.00
($2.00 Medical Defense.)	
15. Dr. H. P. Larimore, Hamilton County	13.00
($3.00 Medical Defense.)	
15. Dr. J. H. McSwain, Henry County	2.10
15. Dr. T. J. Hickman, Loudon County	15.00
($1.00 Medical Defense.)	
15. Dr. F. A. Zoller, Blount County	14.00
($4.00 Medical Defense.)	
15. Dr. W. C. Brown, Chester County	12.00
15. Dr. R. Y. Fisher, Decatur County	2.00
17. Dr. J. M. Cox, Anderson County	33.00
($11.00 Medical Defense.)	
20. Dr. J. H. Larimore, Hamilton County	7.00
($1.00 Medical Defense.)	
20. Dr. C. T. Burnett, Cocke County	14.00
20. Dr. F. O. Geisler, Polk County	22.00
21. Dr. S. W. McFarland, Wilson County	2.00
21. Dr. Pitney Phillips, Scott County	9.00
($3.00 Medical Defense.)	
25. Dr. J. F. Myers, Tipton County	28.00
($8.00 Medical Defense.)	
27. Dr. M. E. Rust, Dyer County	9.00
($3.00 Medical Defense.)	
27. Dr. C. H. Williams, Hardin County	18.00
27. Dr. Jesse C. Hll, Knox County	72.00
31. Dr. H. T. Larimore, Hamilton County	21.00
($1.00 Medical Defense.)	
31. Dr. J. F. Myers, Tipton County	3.00
31. Dr. T. J. Hickman, Loudon County	2.00
	$692.10
3. Dr. Chas. L. Hill, Davidson County (1918 dues)	14.00
	$706.10
Medical Defense	78.00

February.

4. Dr. W. T. Kennedy, Washington Co.	$ 3.00
($1.00 Medical Defense.)	
4. Dr. W. C. Brown, Chester County	2.00
4. Dr. W. T. Bell, McNairy County	5.00
($1.00 Medical Defense.)	
4. Dr. J. D. Alexander, Lake County	20.00
4. Dr. F. A. Zoller, Blount County	3.00
($1.00 Medical Defense.)	
4. Dr. J. S. Lyons, Hawkins County	6.00
5. Dr. M. E. Rust, Dyer County	3.00
($1.00 Medical Defense.)	
6. Dr. F. A. Zoller, Blount County	3.00
($1.00 Medical Defense.)	
6. Dr. J. R. Parker, Sumner County	40.00
($10.00 Medical Defense.)	
7. Dr. Jack Witherspoon, Davidson Co.	110.00
7. Dr. Jesse C. Hill, Knox County	18.00
10. Dr. J. W. Sanford, Lauderdale County	48.00
($16.00 Medical Defense.)	
10. Dr. M. E. Rust, Dyer County	9.00
($3.00 Medical Defense.)	
10. Dr. H. P. Larimore, Hamilton County	22.00
($6.00 Medical Defense.)	
10. Dr. G. P. Zirkle, Roane County	21.00
($7.00 Medical Defense.)	
12. Dr. W .T. Kennedy, Washington Co.	28.00
($8.00 Medical Defense.)	
12. Dr. J. B. Blue, Shelby County	12.00
17. Dr. J. W. Sanford, Lauderdale Co.	12.00
($4.00 Medical Defense.)	

17.	Dr. H. P. Larimore, Hamilton County ($1.00 Medical Defense.)	7.00
17.	Dr. Lex Dyer, Putnam County ($8.00 Medical Defense.)	24.00
17.	Dr. K. S. Howlett, Williamson Co. ($7.00 Medical Defense.)	31.00
19.	Dr. M. E. Rust, Dyer County ($1.00 Medical Defense.)	3.00
19.	Dr. G. W. Moody, Bedford County	24.00
20.	Dr. W. T. Kennedy, Washington Co.	2.00
21.	Dr. M. E. Rust, Dyer County	2.00
21.	Dr. W. J. Sugg, Dickson County ($2.00 Medical Defense.)	12.00
21.	Dr. J. C. Hill, Knox County	24.00
22.	Dr. Jack Witherspoon, Davidson Co.	38.00
24.	Dr. G. P. Zirkle, Roane County ($1.00 Medical Defense.)	17.00
25.	Dr. B. B. Sory, Robertson County ($3.00 Medical Defense.)	15.00
25.	Dr. Jesse C. Hill, Knox County	6.00
25.	Dr. J. B. Blue, Shelby County	6.00
26.	Dr. J. W. Sanford, Lauderdale County ($2.00 Medical Defense.)	8.00
26.	Dr. W. E. Vance, Sullivan, Carter and Johnson Counties	24.00
27.	Dr. A. B. Qualls, Overton County ($5.00 Medical Defense.)	15.00
27.	Dr. W. F. Roberts, Obion County ($5.00 Medical Defense.)	31.00
27.	Dr. Geo. A. Brandon, Henderson Co. ($2.00 Medical Defense.)	28.00
27.	Dr. J. F. Myers, Tipton County ($1.00 Medical Defense.)	3.00
27.	Dr. Pitney Phillips, Scott County	2.00
27.	Dr. H. P. Larimore, Hamilton County	2.00
		$689.00
	Meidcal Defense	97.00
3.	Jesse C. Hill, Knox County	$ 6.00
3.	W. F. Roberts, Obion County ($5.00 Medical Defense.)	5.00
3.	Dr. F. A. Zoller, Blount County ($2.00 Medical Defense.)	8.00
3.	Dr. J. H. Williams, Carroll County	16.00
3.	Dr. A. P. Smythe, Weakley Countq ($8.00 Medical Defense.)	34.00
3.	Dr. M. A. Beasley, Maury County ($1.00 Medical Defense.)	13.00
3.	Dr. W. H. Delap, Campbell County ($1.00 Medical Defense.)	13.00
3.	Dr. G. C. Grimes, Giles County	10.00
3.	Dr. G. W. Moody, Bedford County ($9.00 Medical Defense.)	11.00
4.	Dr. M. E. Rust, Dyer County ($2.00 Medical Defense.)	6.00
4.	Dr. O. H. Williams, Hardin County	2.00
5.	Dr. W. J. Sugg, Dickson County ($3.00 Medical Defense.)	13.00
5.	Dr. C. E. Reeves, Jackson County ($8.00 Medical Defense.)	26.00
6.	Dr. A. Y. Kirby, Macon County ($7.00 Medical Defense.)	23.00

6.	Dr. T. A. Patrick, Lincoln County	46.00
6.	Dr. I. A. McSwain, Henry County ($2.00 Medical Defense.)	k24.00
7.	Dr. Lex Dyer, Putnam County ($2.00 Medical Defense.)	10.00
7.	Dr. J. W. Sanford, Lauderdale Co. ($2.00 Medical Defense.)	10.00
7.	Dr. W. F. Roberts, Obion County	4.00
7.	Dr. Jesse C. Hill, Knox County	10.00
8.	Dr. S. W. McFarland, Wilson County	4.00
8.	Dr. M. E. Rust, Dyer County ($4.00 Medical Defense.)	16.00
10.	Dr. J. B. Blue, Shelby County	24.00
10.	Dr. Jesse C. Hll, Knox County	38.00
10.	Dr. J. B. Blue, Shelby County	22.00
10.	Dr. H. P. Larimore, Hamilton County ($4.00 Medical Defense.)	20.00
10.	Dr. D. H. Bryan, Grundy County ($1.00 Medical Defense.)	3.00
10.	Dr. C. C. Patch, Rhea County ($1.00 Medical Defense.)	3.00
11.	Dr. I. A. McSwain, Henry County	2.00
11.	Dr. B. M. Tittsworth, Jefferson Co. ($4.00 Medical Defense.)	12.00
11.	Dr. G. C. Grimes, Giles County	2.00
11.	Dr. H. Hawkins, Madison County	50.00
12.	Dr. W. T. Kennedy, Washington Co.	2.00
12.	Dr. W. T. Kennedy, Washington Co. ($2.00 Medical Defense.)	6.00
12.	Dr. T. J. Hickman, Loudon County	2.00
13.	Dr. J. B. Blue, Shelby County	16.00
13.	Dr. I. A. McSwain, Henry County	2.00
13.	Dr. S. T. Hardison, Marshall County ($10.00 Medical Defense.)	52.00
14.	E. W. Cocke, Hardeman County	18.00
14.	I. A. McSwain, Henry County	4.00
14.	Dr. R. Y. Fisher, Decatur County	2.00
14.	Dr. Jesse C. Hill, Kn oxCounty	12.00
14.	Dr. J. B. Blue, Shelby County	28.00
14.	Dr. C. P. Zirkle, Roane County	2.00
15.	Dr. W. F. Roberts, Obion County	4.00
15.	Dr. G. C. Grimes, Giles County	4.00
51.	Dr. E. H. Jones, Rutherford County ($2.00 Medical Defense.)	32.00
15.	Dr. F. A. Zoller, Blount County ($1.00 Medical Defense.)	3.00
17.	Dr. Jno. T. Allen, Haywood County	2.00
17.	Dr. W. K. Vance, Sullivan County	12.00
17.	Dr. J. B. Blue, Shelby County	26.00
17.	Dr. H. P. Larimore, Hamilton County ($4.00 Medical Defense.)	16.00
17.	Dr. Jesse C. Hill, Knox County	2.00
17.	Dr. J. L. Edwards, Haywood County	6.00
17.	Dr. I. A. McSwain, Henry ($1.00 Medical Defense.)	5.00
17.	Dr. R. A. Brock, McMinn County	14.00
19.	Dr. W. F. Roberts, Obion County ($1.00 Medical Defense.)	3.00
19.	Dr. M. E. Rust, Dyer County ($3.00 Medical Defense.)	9.00
19.	Dr. J. B. Blue, Shelby County	20.00
19.	V. L. Lewis, Cumberland oCunty	6.00

19.	Dr. C. T. Burnett, Cocke County	2.00
20.	Dr. S. W. McFarland, Wilson County ($1.00 Medical Defense.)	3.00
20.	Dr. B. B. Sory, Robertson County ($1.00 Medical Defense.)	10.00
20.	Dr. Bryce Runyon, Montgomery Co. ($9.00 Medical Defense.)	39.00
21.	Dr. J. B. Blue, Shelby County	1.00
21.	Dr. Bryce Runyon, Montgomery Co. ($1.00 Medical Defense.)	1.00
21.	Dr. W. J. Sugg, Dckson County ($3.00 Medical Defense.)	11.00
21.	Dr. J. B. Blue, Shelby County	66.00
21.	Dr. Jno. E. Powers, Overton County ($1.00 Medical Defense.)	3.00
21.	Dr. Pitney Phillips, Scott County ($1.00 Medical Defense.)	3.00
22.	Dr. Geo. A. Brandon, Henderson Co. ($2.00 Medical Defense.)	22.00
22.	Dr. B. . High, Smith County	2.00
24.	Dr. Geo. A. Brandon, Henderson Co. ($1.00 Medical Defense.)	3.00
24.	Dr. H. P. Larimore, Hamilton County	6.00
24.	Dr. . F. Myers, Tpton County ($4.00 Medical Defense.)	12.00
24.	Dr. W. H. Delap, Campbell County	4.00
26.	Dr. J. B. Blue, Shelby County	18.00
26.	Dr. C. T. Carroll, Hamblen County ($13.00 Medical Defense.)	45.00
26.	Dr. R. C. Miller, Rhea County ($2.00 Medical Defense.)	14.00
26.	Dr. M. A. Beasley, Maury County ($2.00 Medical Defense.)	10.00
26.	Dr. W. H. Delap, Campbell County	6.00
26.	Dr. Jesse C. Hill, Knox County	10.00
27.	Dr. R. L. Maloney, Warren County ($2.00 Medical Defense.)	26.00
27.	Dr. M. A. Blanton, Greene County ($4.00 Medical Defense.)	50.00
27.	Dr. Jack Witherspoon, Davidson Co.	50.00
27.	Dr. J. B. Blue, Shelby County	8.00
27.	Dr. W. T. Bell, McNairy County ($3.00 Medical Defense.)	11.00
28.	Dr. W. F. Roberts, Obon County	2.00
28.	Dr. G. W. Moody, Bedford County ($3.00 Medical Defense.)	9.00
28.	Dr. T. F. Taylor, Dyer County	2.00
29.	Dr. Jesse C. Hill, Knox County	4.00
29.	Dr. R. P. Beasley, Hickman County ($1.00 Medical Defense.)	13.00
31.	Dr. R. C. Miller, Rhea County	2.00
31.	Dr. G. C. Grimes, Giles County	18.00
31.	Dr. Herman Hawkins, Madison Co.	18.00
		$1,323.00
	Medical Defense	134.00

DISBURSEMENTS.

April 6.	Olin West, Secretary, stamps	$ 10.00
April 6.	Dr. S. R. Miller, Med. Defense	1.00
April 6.	Dr. S. R. Miller, Med. Defense	1.00
April 6.	Dr. S. R. Miller, Med. Defense	1.00
April 6.	6. Cumberland Telephone Co.	8.41
April 6.	Dr. S. R. Miller, Med. Defense	1.00
April 16.	Rich Ptg. Co. (April Journal, $210; extra copies, $13; postage, $6.56; Constitution and By-Laws, $42.50; Programs, $42	314.06
April 17.	Dr. S. R. Miller, Med. Defense	1.00
April 17.	Dr. S. R. Miller, Med. Defense	1.00
April 17.	Dr. S. R. Miller, Med. Defense	3.00
April 17.	Dr. S. R. Miller, Med. Defense	1.00
April 17.	Dr. S. R. Miller, Med. Defense	1.00
April 17.	Dr. S. R. Miller, Med. Defense	1.00
April 17.	Miss Mabel Miller, March salary	60.00
April 17.	Dr. Olin West, traveling expenses, hotel, etc., Miss Miller to Memphis, $31.28; telegrams for Associat'n, $3.20; charges, transfer books, etc., $1.50; incidentals, halls, etc., $2.50	38.48
April 20.	E. S. Shannon, Postmaster, st'ps	10.00
April 20.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from March 15 to April 15	15.00
April 20.	D. Heber Johnston, stenograph report House of Delegates, for March meeting	63.50
April 22.	Ebb Lee, janitor, April 1-20	3.00
April 24.	H. H. Shoulders, for expense of Maj. W. J. Bell at Memphis, paid by Dr. Shoulders	35.00
April 24.	Dr. S. R. Miller, Med. Defense	4.00
April 24.	Dr. S. R. Miller, Med. Defense	1.00
April 26.	Hermitage Laundry, 73c; Western Union, 80c	1.53
May 1.	Miss Mabel Miller, April salary	60.00
May 2.	Cumb. Tel. Co., services M. 1887	13.00
May 2.	Howe's Tripure Distilled Water Co., March account	2.00
May 3.	Dr. S. R. Miller, Med. Defense	6.00
May 3.	Ebb Lee, janitor services	2.00
May 9.	Dr. S. R. Miller, Med. Defense	1.00
May 13.	Wm. Whitford, reporting Memphis meeting, $100; expenses, $37.46	137.46
May 13.	Dr. S. R. Miller, Med. Defense	1.00
May 13.	Dr. S. R. Miller, Med. Defense	1.00
May 14.	Rich Ptg. Co., 500 badges, $21.11; 750 folders, $7.75	28.86
May 14.	Ambrose Ptg. Co.	5.25
May 15.	Dr. Olin West, Secretary, stamps	5.00
May 20.	Western Union, for delivery of May Journal	.80
May 21.	Dr. S. R. Miller, Med. Defense	1.00
May 22.	Dr. S. R. Miller, Med. Defense	1.00
May 24.	Rich Ptg. Co., postage, prints	230.42
May 24.	Dr. D. L. Flanary, Sec. Dyer Co. Med. Society, amount overpaid Straughan & Edwards	2.00
May 24.	Dr. S. R. Miller, Med. Defense	1.00
May 25.	Ebb Lee, janitor	3.00
May 30.	Dr. Olin West, on salary	80.00

May 30.	Dr. S. R. Miller, Med. Defense	1.00
May 30.	Dr. S. R. Miller, Med. Defense	2.00
June 1.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from April 15 to May 15	15.00
June 1.	Miss Mabel Miller, May salary	60.00
June 1.	Dr.Wm. Krauss, Chairman Com. on Social Insurance	40.00
June 5.	Dr. S. R. Miller, Med. Defense	1.00
June 10.	Cumb. Tel. Co., May services	9.95
June 14.	Dr. Olin West, Secretary, salary	80.00
June 20.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office from May 15 to April 15	15.00
June 22.	Ebb Lee, janitor	4.00
June 25.	E. S. Shannon, postmaster, st'ps	20.00
June 26.	Dr. S. R. Miller, Med. Defense	2.00
June 26.	Dr. Olin West, Sec., Med. Corps	1.00
June 27.	Miss Helen Murphree, refund on laundry bill	1.23
June 29.	Rich Ptg. Co., June Journal and postage, $5.28; 8 extra pages	241.43
July 1.	Miss Helen Murphree, salary, 12 days	24.00
July 1.	E. S. Shannon, postmaster, st'ps	10.00
July 3.	Dr. S. R. Miller, Med. Defense	1.00
July 8.	Cumb. Tel. Co., July services	6.00
July 12.	Dr. Olin West, Sec., on salary	85.00
July 13.	Ebb Lee, janitor	3.00
July 17.	Howe's Tripure Distilled Water Co., May and June accounts	2.75
July 17.	Ambrose Ptg. Co., May account	2.15
July 19.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office from June 15 to July 15	15.00
July 23.	Central Press Clipping Service, in full of account from March 1 to July 31	10.00
July 26.	Dr. Olin West, Sec., on salary	75.00
Aug. 1.	E. S. Shannon, postmaster, st'ps	10.00
Aug. 4.	S. B. North, state dues returned	2.00
Aug. 6.	Ebb Lee, janitor and delivery of Journals	4.00
Aug. 7.	Cash, for money order; disbursing clerk P. O. Dept., Washington, for U. S. Postal Guide	.68
Aug. 8.	Dr. S. R. Miller, Med. Defense	2.00
Aug. 8.	Cumb. Tel Co., services and listing August	6.00
Aug. 13.	Rich Ptg. Co., postage and mailing Journal for July	217.00
Aug. 13.	Rich Ptg. Co., typewritten letters and envelopes	26.25
Aug. 13.	Dr. S. R. Miller, Med. Defense	1.00
Aug. 15.	Dr. S. R. Miller, Med. Defense	1.00
Aug. 19.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, July 15 to August 15	15.00
Aug. 23.	E. S. Shannon, postmaster, st'ps	3.00
Aug. 23.	Dr. S. R. Miller, Med. Defense	3.00
Aug. 30.	E. S. Shannon, postmaster, post.	5.00
Aug. 30.	Western Union Tel. Co., in full delivery Journals June 20	1.00
Aug. 31.	Rich Ptg. Co., August Journal and postage	217.00
Aug. 31.	Miss Helen Murphree, August salary	60.00
Sept. 3.	Dr. S. R. Miller, Med. Defense	1.00
Sept. 9.	E. S. Shannon, postmaster, st'ps	5.00
Sept. 9.	Cumb. Tel. Co., Sept. services	6.00
Sept. 9.	Howe's Tripure Distilled Water Co., July and August	3.20
Sept. 9.	Ebb Lee, janitor, del. of Journals	6.00
Sept. 10.	Dr. S. R. Miller, Med. Defense	4.00
Sept. 12.	Dr. Olin West, Sec., on salary	85.00
Sept. 14.	Miss Helen Murphree, salary, Sept. 1 to Sept. 28	28.80
Sept. 18.	Dr. S. R. Miller, Med. Defense	3.00
Sept. 25.	Dr. S. R. Miller, Med. Defense	7.00
Oct. 1.	Dr. S. R. Miller, Med. Defense	2.00
Oct. 2.	E. S. Shannon, postmaster, st'ps	5.00
Oct. 4.	Alice Knight, salary, half Sept.	30.00
Oct. 4.	Rich Ptg. Co., September Journal and postage	220.00
Oct. 10.	Ebb Lee, janitor, and delivery of Journals	6.00
Oct. 14.	Oxford Retreat, overpaid advertising account	27.25
Oct. 16.	Cumb. Tel. Co., bill in full	15.81
Oct. 16.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from Aug. 15 to Sept. 15	15.00
Oct. 17.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office from Sept. 15 to Oct. 15	15.00
Oct. 24.	Dr. Olin West, Sec., on salary	95.00
Oct. 28.	E. S. Shannon, postmaster, st'ps	5.00
Nov. 1.	Alice Knight, October salary	60.00
Nov. 5.	Cumb. Tel. Co., service, M. 1887	6.00
Nov. 7.	Texas State Journal of Medicine, subscription to Journal	2.00
Nov. 7.	Southern Medical Journal, subscription to Journal	2.00
Nov. 9.	Ebb Lee, janitor, del. Journals	5.00
Nov. 12.	E. S. Shannon, postmaster, st'ps	5.00
Nov. 15.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office from Oct. 15 to Nov. 15	15.00
Nov. 15.	Rich Ptg. Co., October Journal and postage	219.00
Nov. 15.	Ambrose Ptg. Co., 3,000 6 3-4 envelopes	10.50
Nov. 19.	Phillip H. Hicks, for insurance policy No. 2421	40.59
Nov. 21.	Dr. Olin West, on salary	80.00
Dec. 6.	Rich Ptg. Co., November Journal, $210; postage, $5; Tennessee Council of National Defense, $3.75	218.75
Dec. 13.	Cumb. Tel. Co., Nov. services	7.85
Dec. 14.	E. S. Shannon, postmaster, st'ps	5.00
Dec. 14.	Dr. A. T. Richards, as Delegate, 1918 A. M. A.	50.00

Dec. 16.	Dr. Olin West, Sec., on salary	85.00
Dec. 18.	Ebb Lee, janitor, services and delivery of Journals	6.00
Dec. 18.	Dr. S. R. Miller, Med. Defense	2.00
Dec. 18.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from Nov. 15 to Dec. 15	15.00
Dec. 19.	Alice Knight, part Dec. salary	20.00
Dec. 30.	Dr. S. R. Miller, Med. Defense	13.00
Dec. 31.	Rich Ptg. Co., Dec. Journal	210.00
1919.		
Jan. 3.	Dr. S. R. Miller, Med. Defense	13.00
Jan. 3.	Alice Knight, bal. Dec. salary	40.00
Jan. 3.	E. S. Shannon, postmaster, st'ps	5.00
Jan. 7.	Dr. S. R. Miller, Med. Defense	4.00
Jan. 10.	Dr. E. L. Bishop, Dec. telephone	6.00
Jan. 11.	Ebb Lee, anitor, and delivery of Journals	5.00
Jan. 14.	Dr. S. R. Miller, Med. Defense	1.00
Jan. 14.	Dr. S. R. Miller, Med. Defense	6.00
Jan. 14.	E. S. Shannon, postmaster, st'ps	5.00
Jan. 18.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from Dec. 15 to Jan. 15	15.00
Jan. 18.	Alice Knight, part Jan. salary	30.00
Jan. 20.	Dr. S. R. Miller, Med. Defense	23.00
Jan. 21.	Dr. S. R. Miller, Med. Defense	3.00
Jan. 31.	Dr. Olin West, Sec., on salary	80.00
Jan. 31.	Alice Knight, remainder salary	30.00
Feb. 1.	Dr. S. R. Miller, Med. Defense	2.00
Feb. 3.	Rich Ptg. Co., January Journal, $210; cuts for Dec. Journal, $29.05; postage for December, $10.32; postage, January, $5	254.37
Feb. 3.	Dr. S. R. Miller, Med. Defense	11.00
Feb. 7.	E. S. Shannon, postmaster, st'ps	5.00
Feb. 8.	Dr. S. R. Miller, Med. Defense	15.00
Feb. 8.	Ambrose Ptg. Co., 2M membership cards, $5.50; 250-page ledger, $1.80; clips, pen points and oil	7.80
Feb. 9.	Dr. E. L. Bishop, telephone bill	6.00
Feb. 8.	Ebb Lee, janitor, and delivery of Journals	5.00
Feb. 10.	Dr. S. R. Miller, Med. Defense	32.00
Feb. 12.	Dr. S. R. Miller, Med. Defense	8.00
Feb. 13.	E. S. Shannon, postmaster, st'ps	5.00
Feb. 14.	Alice Knight, part Feb. salary	30.00
Feb. 21.	W. T. Jones, Supt. Capitol, rent for 601 Cedar St. office, from Jan. 15 to Feb. 15	15.00
Feb. 24.	E. S. Shannon, postmaster, st'ps	6.00
Feb. 24.	Dr. S. R. Miller, Med. Defense	24.00
Feb. 20.	E. S. Shannon, postmaster, st'ps	5.00
Feb. 25.	Dr. S. R. Miller, Med. Defense	5.00
Feb. 26.	Dr. S. R. Miller, Med. Defense	2.00
Feb. 28.	Ebb Lee, janitor	3.00
Mar. 1.	Alice Knight, remainder salary	30.00
Mar. 4.	Dr. J. F. Gallagher, Treasurer	100.00
Mar. 4.	E. S. Shannon, postmaster, st'ps	6.00
Mar. 4.	Dr. S. R. Miller, Med. Defense	35.00
Mar. 4.	Dr. S. R. Miller, Med. Defense	2.00
Mar. 5.	Rich Ptg. Co., cuts for January Journal, $5.77; cuts for February Journal, $177.50; Journal for February, $210; postage, $5	238.27
Mar. 5.	Dr. S. R. Miller, Med. Defense	11.00
Mar. 6.	Dr. Olin West, Sec., on salary	80.00
Mar. 6.	Alice Knight, part March salary	5.00
Mar. 6.	Dr. S. R. Miller, Med. Defense	9.00
Mar. 7.	E. S. Shannon, postmaster, st'ps	6.00
Mar. 10.	Dr. E. L. Bishop, Feb. telephone	6.00
Mar. 10.	Dr. S. R. Miller, Med. Defense	14.00
Mar. 11.	Dr. S. R. Miller, Med. Defense	4.00
Mar. 12.	Dr. S. R. Miller, Med. Defense	2.00
Mar. 13.	E. S. Shannon, postmaster, st'ps	5.00
Mar. 13.	Alice Knight, part March salary	25.00
Mar. 13.	Dr. S. R. Miller, Med. Defense	10.00
Mar. 15.	Dr. S. R. Miller, Med. Defense	3.00
Mar. 18.	E. S. Shannon, postmaster, st'ps	6.00
Mar. 19.	Dr. S. R. Miller, Med. Defense	9.00
Mar. 20.	Dr. S. R. Miller, Med. Defense	12.00
Mar. 21.	Dr. S. R. Miller, Med. Defense	6.00
Mar. 22.	Dr. S. R. Miller, Med. Defense	2.00
Mar. 26.	Dr. S. R. Miller, Med. Defense	22.00
Mar. 27.	Alice Knight, part March salary	5.00
Mar. 27.	E. S. Shannon, postmaster, st'ps	5.00
Mar. 27.	Rich Ptg. Co., March Journal, $210; postage, $6	216.00
Mar. 28.	Dr. J. B. Blue, Sec., overpay of membership	2.00
Mar. 28.	Dr. Olin West, Secretary, balance of annual salary	175.00
Mar. 28.	Ambrose Ptg. Co., 2M letter heads, $8.50; half doz. pencils, 25c	8.75
Mar. 28.	Atlantic Ice & Coal Co.	16.14
Mar. 28.	The Bell Co., 400 buttons	21.00
Mar. 28.	Dr. S. R. Miller, Med. Defense	12.00
Mar. 29.	Alice Knight, remainder salary	25.00

SUMMARY.

Receipts from advertising, subscriptions, etc.	$2,395.92
Receipts from membership dues, including medical defense assessments, remitted to Secretary	3,786.35
Interest on deposits	25.25
Total income for year	$6,207.52
Balance on hand April 1, 1918	1,714.80
Grand total for year	$7,922.32

BANK ACCOUNT.

Balance on hand April 1, 1918	$1,754.80
Deposited in bank	6,182.27
Interest received on bank balances	25.25
Total	$7,962.32
Canceled checks returned	5,905.29
Apparent balance	$2,057.03

Deduct outstanding checks Nos. 191, 103, 195 and 196-200	216.00
Actual balance on hand April 1, 1919	$1,841.03

J. F. GALLAGHER, Treasurer.

Examined and approved:
L. A. YARBROUGH,
J. T. LEIPER,
L. E. WHEAT,
Auditing Committee.

NOTES AND COMMENT

Three hundred and thirty-two members took occasion to register at the Nashville meeting. We have checked the list, somewhat casually, and find that a number who were present failed to register.

Dr. Richard Barr, Nashville, has been discharged from the Army, and has again taken up his surgical practice. Dr. Barr was discharged with the rank of lieutenant-colonel, having received promotion while in France as commanding officer of the Vanderbilt Hospital Unit.

Dr. Holland M. Tigert, Nashville, has resumed his practice at Nashville, having recently returned from France, where he served with distinction in a number of important assignments. Dr. Tigert was an officer of the Vanderbilt Hospital Unit, and was discharged with the rank of major.

Dr. A. F. Richards, Sparta, who was elected President of the Tennessee State Medical Association at the recent meeting at Nashville, has long been one of the most active men in medical society affairs in this state. He has served his county society and the State Association in many important and responsible positions, always with honor and credit. A "sketch" of our new President will appear in the May Journal.

Dr. William McCabe, Nashville, has returned to his home to re-enter private practice after a service of eighteen months as an officer in the Vanderbilt Hospital Unit. Dr. McCabe was discharged with the rank of major.

Fifty-five county societies were represented at the Nashville meeting—fifteen West Tennessee societies, twenty-six Middle Tennessee, and fourteen East Tennessee societies were represented.

Dr. T. D. McKinney, Nashville, who has served as an officer with the Vanderbilt Hospital Unit in France for the last year and a half, has been discharged from the Army and has re-entered practice in Nashville. Dr. McKinney retired with the rank of captain, having won promotion, just as the other officers with this splendid organization.

Drs. W. C. Dixon, W. G. Kennon, E. M. Fuqua, and R. R. Brown, all of whom have served as officers in the Vanderbilt Hospital Unit, recently returned from France, are expected to return to Nashville at once. These gentlemen will take up their private practice again, and will receive a most cordial welcome from their many professional friends, as well as from the people of the community.

INDEX VOL. X

Number 11.

Original Articles.

The Treatment of Chronic Parenchymatous Nephritis. By E. R. Zemp, M. D., Knoxville — 423
Tuberculosis of the Bladder. By Perry Bromberg, M. D., F. A. C. S., Nashville — 429
The Treatment of Purulent Conjunctivitis. By J. T. Herron, M. D., Jackson, Tenn. — 445

Editorials.

The Prosecution of Illegal Practitioners — 457
Reciprocating with Tennessee — 460
The Eighty-fifth Annual Meeting — 456
An Imposition — 458
Dr. E. M. Holmes — 461
Dr. James G. Williamson, Jr. — 461
For Advanced Rank — 459
Venereal Diseases Now Reportable in Tennessee — 460
The Volunteer Medical Service Corps — 457

Miscellaneous.

Miscellaneous — 455
Notes and Comment — 461

NUMBER 12.

Original Articles.

Tuberculosis Within the Abdominal Cavity

Page
—With Case Reports. By W. O. Floyd, B. S. D. M., Nashville 463
Acute Pyothorax. By Benjamin Brabson Cates, Knoxville 467
Drug Addiction and the Newborn. By K. S. Howlett, M. D., Knoxville 468
A Warning Against Operations for Varicocele on Applicants for Enlistment, Registrants for the Selective Draft, and Soldiers. By Joseph Colt Bloodgood, M. D., Baltimore 469
Report of the Secretary 470
Miscellaneous 479 to 482

Editorials.

Another "Number 12" 484
Typhoid in Tennessee Cities 484
A. M. A. at Chicago 485
Tennessee in the Medical Reserve Corps 485
A New Review on War Surgery 485
Dr. James P. Hanner 485
Lieut. David King Summers 486

Miscellaneous.

Notes and Comment 486
Miscellaneous 488
Official Program, Eighty-fifth Annual Meeting 490
Book Review 497
Index to Volume Ten 499

VOLUME XI.

NUMBER 1.

Original Articles.

The Duty of the Profession in the Present Crisis—Presidential Address by E. T. Newell, M. D., Chattanooga 1
Proceedings of the Eighty-fifth Annual Meeting of the Tennessee State Medical Association, April 9, 10, 11, 1918, Memphis 6
More Tennessee Doctors Must Go 42

Editorials.

The Memphis Meeting 43
Dr. Richmond McKinney 44
State Board of Health 44
A. M. A. at Chicago 46
In State Hospitals 46
An Imperative Appeal for Medical Officers 46
Appointed Member of Board of Examiners 46
Licenses Revoked 47
Toxicity of Arsphenamine 47
Dr. Frank B. Reagor 47

Miscellaneous.

Notes and Comment 48
Book Reviews 48

NUMBER 2.

Original Articles.

The Swinging of the Pendulum. By Richmond McKinney, M. D., Memphis 49
The Medical Profession and the Part It Plays in War. By Lieut.-Col. Victor C. Vaughan, Washington, D. C. 53
Page
Sanitary Conditions in Camps and Cantonments. By Lieut.-Col. Victor C. Vaughan, Washington, D. C. 56
The Medical Reserve Corps and Medical Military Activity. By Maj. Frank F. Simpson, M. R. C., Washington, D. C. 59
Surgery on the Battlefield. By Maj. W. J. Bell, M. R. C., Camp Greenleaf 61
Observations Regarding Neurological Surgery, and Especially the Diagnosis and Treatment of Brain Injuries. By William Sharpe, M. D., New York City 67
The Sanitary Dangers from Domestic Pets 77

Editorials.

Waiting on the Other Man 78
Birth Certificates 78
The Tennessee State Board of Health 78
Are You One? 80
Tennessee Congressmen and the Owen Bill 81
Report All Disloyal Acts 82
Use the Official Names 82
May There Be None Unenlisted on That Day 83
Goods and Service 84
What Will Win the War? 84
Helping the Government and Ourselves 85
One Nonessential Industry 85

Miscellaneous.

Notes and Comment 86
Miscellaneous 87
Book Reviews 89

VOLUME ELEVEN.

Number Three.

Original Articles.

Surgery of the Thyroid. By J. B. Haskins, M. D., Chattanooga 91
Surgical Management of Chronic Gastric and Duodenal Ulcers. By R. L. Sanders, M. D., Memphis 97
Laryngeal Tuberculosis: Its Early Recognition and Curative Treatment. By C. A. Robertson, M. D., Ridgetop 100
New Treatment of Epithelioma. By G. C. Savage, M. D., Nashville 106
The Physician's Duty and His Responsibility to the Government in This Crisis. By Maj. Frank D. Smythe, M. R. C., Memphis 114
Induration of the Coropa Cavernosa—Fibrous Cavernositis. By Perry Bromberg, M. D., F. A. C. S., Nashville 118

Editorials.

The Committee of National Defense—Medical Section 122
Reports of Communicable Diseases 122
Tennessee in M. R. C. 123
Information on the Volunteer Service Corps 124
Are We Going to Quit 125
Must Back the Government With All Our Strength 125

Page
Some Facts About Liberty Bonds 127
Chest Examinations 128
Pneumonia 129
Influenzal Sinus Disease 129
Gonococcus Endocarditis 130

Miscellaneous.

Notes and Comment 130
Miscellaneous 131
Book Reviews 132

NUMBER 4.

Original Articles.

Acute Osteomyelitis. By E. M. Sanders, M. D., Nashville 133
Report of the Committee on Social Medicine. By Wm. Krauss, M. D., Chairman 141
Institutional Care of Infants. By R. H. Perry, M. D., Nashville 147
The Detection of Feigned Blindness and Deafness. By Herschell Ezell, M. D., Nashville 150
Kaiserism and the Medical Profession. By William F. Clary, Capt., M. R. C., Memphis 152
Furunculosis and Its Treatment, Especially by Means of Yeast 154

Editorials.

Every Man in the M. R. C. 159
When They Come Back 159
Organization Necessary 160
From the President of the A. M. A. 160
One-Half Million Operations Free 162
Tennessee Physicians in the Army and Navy Medical Service 163
Enlistments in M. R. C. Not to Be Interrupted 168
Memorial Service for Dr. A. H. P. Sage 168
Dr. William A. Deithrich 168
Trachoma in Tennessee 169
Social Insurance 169
Brain Trauma 170
The Owen-Dyer Bill As Enacted 170

Miscellaneous.

Notes and Comment 171
Miscellaneous 172
Book Review 173

NUMBER 5.

Original Articles.

Eye Requirements for Aviators. By Robert Lagin, B. A., M. D., Memphis 177
Report of a Case of Traumatic Stricture of the Larynx. By Hilliard Wood, M. D., Nashville 179
Treatment of Mastoid Disease. by Lieut. J. P. Crawford, M. R. C., Nashville 181
Low Back Pains. By Adam G. Nichol, M. D., Nashville 185
A Program for Anti-Tuberculosis Work. By H. M. Shoulders, M. D., Nashville 186
Complete Intestinal Obstruction from Carcinoma of Sigmoid and Rectum. By W. D. Haggard, M. D., F. A. C. S., and W. O. Floyd, B. S., M. D., Nashville 190
Goiter. By Drs. E. H. and J. P. Baird, Dyersburg 195

Editorials.

Camouflage 198
Things That Are Certain 198
An Appeal for Nurses 198
Send in Your Papers, Please 199
Tennessee Physicians in the Army and Navy Service 199
The Volunteer Medical Service Corps 200
Volunteer Medical Service Corps Organization 200
Robertson County Re-organized 202

Miscellaneous.

Miscellaneous 202

NUMBER 6.

Original Articles.

The Proper Interpretation of Bladder Symptoms. By Geo. R. Livermore, M. D., F. A. C. S., Memphis 217
Surgical Treatment of Varicose Veins. By Wm. Sailer Anderson, M. D., Memphis 220
Antrum Infection. By Walter Dotson, M. D., Lebanon 223
Preliminary Report of Radium Cases. By E. T. Newell, M. D., Chattanooga 226
Prevailing Indications for Complete Ablation of the Tonsils and Adenoids. By M. E. Hartsook, M. D., Johnson City 230
To Prevent Traumatism. By L. M. Scott, M. D., Jellico 235

Editorials.

The Volunteer Medical Corps Under Fire 239
Birth Certificates 241
Mobilizing of Women Physicians for Anesthetic 241
Tennessee Physicians in France 241
Influenza 242
A Liar 244
Southern Medical Postponed 244
Applied for Membership V. M. S. C. 244
Mr. Wilson Approves 245

Miscellaneous.

Miscellaneous 246

NUMBER 7.

Original Articles.

The Medical Aspect of Dental Caries in Childhood. R. H. Perry, M. D., Nashville 257
ville 257

Page
Some Clinical Observations on Primary Infection of the Mastoid, With Report of Case. By O. Dulaney, M. D., Dyersburg -- 264
A Discussion of Seven Thousand Injuries. By Duncan Eve, Jr., M. D., Nashville ------ 269

Editorials.

Tuberculosis in Tennessee in 1917 -------- 277
Members of Tennessee State Medical Association for 1918 -------------------- 279

Miscellaneous.

Acne Vulgaris -------------------------- 289
A Suggestion for Spanish Influenza -------- 291

NUMBER 8.

Original Articles.

Some Recent Cases of Foreign Body in the Trachea, Bronchi and Esophagus. By Richmond McKinney, M. D., F. A. C. S., Memphis ---------------------------- 293
"Spanish Flu." By J. J. Waller, M. D., Oliver Springs, Tenn. ------------------ 298
Ovarian Influences. By George H. West, M. D., Chattanooga --------------------- 300
A Consideration of Backward and Downward Displacements of the Uretus. By J. F. Gallagher, M. D., F. A. C. S., Nashville -- 305
Some Unsettled Points in the Etiology of Appendicitis. Drs. E. H. and J. P. Baird, Dyersburg -------------------------- 310

Editorials.

Select the Best ------------------------ 315
A New Membership Year ---------------- 315
The 1919 Annual Meeting --------------- 316
To County Secretaries ----------------- 317
Recommended for Commissions ---------- 317
Needed Legislation -------------------- 318

Miscellaneous.

Miscellaneous ------------------------- 319

NUMBER 9.

Original Articles.

A Case Illustrating Some Aspects of Focal Infections. By R. L. Motley, M. D., Dyersburg ------------------------------ 329
Treatment of the Insane in Our State Hospitals. By W. S. Farmer, M. D., Nashville ---------------------------------- 332
The Surgical Treatment of Hyperthyroidism. By E. H. Adkins, M. D., Chattanooga ---- 337
Pneumonia Following Influenza. By Henry A. Christian, M. D., Boston, Mass. ------ 339

Editorials.

The Southern Practitioner ------------- 343
Welcome ------------------------------- 343
Only Nine Counties Reported ----------- 343
To Be Introduced ---------------------- 343
Vaughn on Influenza and the Pneumonias -- 344

Miscellaneous.

Page
Notes and Comment -------------------- 344
Book Reviews -------------------------- 346
Miscellaneous ------------------------- 347

NUMBER 10.

Original Articles.

An Epidemilogic Study of the Recent Outbreak of Epidemic Influenza in Nashville, Tenn. By R. C. Derivaux and W. E. Hibbett, M. D. ---------------------------- 363
The Social Evil. By C. A. Abernathy, M. D., Pulaski ------------------------------ 371
The Clergyman and the Physician—Some Thoughts on Revealed and Natural Religion. By George R. West, M. D., Chattanooga ------------------------------ 375
Statistics of the Epidemic of Influenza in New York City. By William H. Guilfoy, M. D. -------------------------------- 379
Clinical Notes on the Influenza Epidemic. By W. L. Somerset, M. D. -------------- 383
Scientific Medicine: What It Is and What It Is Not. By Edwin Linton, Ph. D. ------ 385

Editorials.

Our Annual Meeting ------------------ 390
Proposed Legislation Affecting State Board of Health ---------------------------- 390
Mr. County Secretary ----------------- 392
Reported to Date --------------------- 392
Specialists—Ethical and Otherwise ------- 392

Miscellaneous.

Notes and Comment -------------------- 395
Miscellaneous ------------------------- 397

NUMBER 11.

Original Articles.

Vocational Training for Inmates of Institutions for Mental and Nervous Diseases. By R. E. L. Smith, M. D., Knoxville -------- 403
The Alienist. By L. D. Smith, Knoxville -- 405
Lessons from a Study of One Thousand Diphtheria Deaths. By Bernard W. Carey, M. D., Boston ----------------------- 409

Editorials.

The Eighty-sixth Annual Meeting -------- 413
State Board of Health Laboratory -------- 413
The A. M. A. at Atlantic City ------------ 414
The Watauga Sanitarium ---------------- 414
Perk Up ------------------------------- 415
Delegates and Alternates --------------- 415
Still Unreported ----------------------- 415
The Program -------------------------- 415

Miscellaneous.

Preliminary Program for Eighty-sixth Annual Meeting ------------------------- 416
Notes and Comments ------------------- 418
Miscellaneous ------------------------- 421

They have finished
their job—now
you finish yours—

Buy
Victory
Bonds

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Typhoid and Paratyphoid Immunization

Typhoid Fever is conquered only when a mixed vaccine containing Paratyphoid A and B bacilli in addition to the Typhoid Bacillus is used for immunization. We early recognized the importance of immunization against mixed typhoid infection and were first to introduce a Mixed Typhoid Vaccine in this country.

Typhoid Immunization by means of Mixed Typhoid Vaccine containing killed typhoid and Paratyphoid A and B bacilli has practically eliminated typhoid fever from the United States Army and Navy and from the military and naval forces in the present world war.

In health reports from camps and cantonments, typhoid cases are exceedingly rare, and when reported, are usually individuals who by some oversight have evaded immunization.

In the United States over 400,000 persons are incapacitated and over 30,000 die of typhoid fever each year* notwithstanding the fact that the immunizing value of typhoid bacterin and serobacterin is thoroughly established.

Typhoid Fever could be eliminated from the civil population just as it has been in the armies and navies of the world by extending the use of Bacterial Vaccines.

Typho-Serobacterin produces immunity more rapidly than the unsensitized bacterial vaccines, and reduces local and general reactions. This is of particular importance since the reduction of general reaction and time required for complete protection are now important factors in immunizing industrial workers.

Mulford Brand Typho-Serobacterin, Mixed, containing sensitized killed Typhoid and Paratyphoid A and B bacilli and **Mulford Brand Typho-Serobacterin** containing sensitized killed typhoid bacilli only, are supplied in three-syringe packages, constituting one complete immunizing treatment.

Also supplied in four-syringe packages for therapeutic use and in 5-mil vials.

---

*United States Public Health Bulletin No. 69, May, 1915.

H. K. MULFORD CO., Philadelphia, U. S. A.

33849

Manufacturing and Biological Chemists

Send for complete literature

THE POWER of the PROTEINS

The paramount importance of the proteins in nutrition, the "physiological ommipotence" of the proteins (Hutchison) is never more insistent, never more of a problem, than in sickness when the patient is unable to utilise the proteins of ordinary foods.

This very real problem finds solution in the use of PANOPEPTON, the food that contains the entire protein substance of beef and wheat transformed under enzymic conversion, in part even the amino-acids, and completely ready for utilisation in the organism.

PANOPEPTON contains also the whole-wheat starches likewise physiologically converted: thus supplies the entire complex of constituents of beef and wheat, the basic food stuffs, protein and carbohydrate, and the indispensable associated extractives, organic and inorganic, phosphates, vitamines and activating principles, those natively soluble and those set free by digestive conversion.

In Panopepton the patient gets a complete food, and in a form physiologically adapted to his condition.

Fairchild Bros. & Foster
New York

Chloretone: Hypnotic and Sedative

Chloretone is indicated in acute mania, puerperal mania, periodical mania, senile dementia, agitated melancholia, motor excitement of general paresis; insomnia due to pain, as in tabes dorsalis, cancer, and trigeminal neuralgia; insomnia due to mental disturbance.

Chloretone is a useful sedative in such conditions as alcoholism, cholera and colic; in epilepsy, chorea, pertussis, tetanus and other spasmodic affections. It allays the nausea of pregnancy, gastric ulcer and seasickness.

Chloretone does not depress the heart or respiratory center.

Capsules: 3-grain and 5-grain, bottles of 100 and 500.
Crystals: Vials of 1 ounce.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 2. NASHVILLE, TENN., JUNE, 1918 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES Page

The Swinging of the Pendulum—Richmond McKinney, M. D., Memphis 49
The Medical Profession and the Part It Plays in War—Lieut.-Col. Victor C. Vaughan, Washington, D. C. 53
Sanitary Conditions in Camps and Cantonments—Lieut.-Col. Victor C. Vaughan, Washington, D. C. 56
The Medical Reserve Corps and Medical Military Activity—Major Frank F. Simpson, M. R. C., Washington, D. C. 59
Surgery on the Battlefield—Major W. J. Bell, M. R. C., Camp Greenleaf 61
Observations Regarding Neurological Surgery, and Especially the Diagnosis and Treatment of Brain Injuries—William Sharpe, M. D., New York City 67
Surgeon-General Gorgas Is Sixty-three Years Young 76
The Sanitary Dangers From Domestic Pets 77

EDITORIALS. Page

Waiting on the Other Man 78
Birth Certificates 78
The Tennessee State Board of Health 78
Are You One? 80
Tennessee Congressmen and the Owen Bill 81
Report All Disloyal Acts 82
Use the Official Names 82
May There Be None Unenlisted on That Day 83
Goods and Services 84
What Will Win the War? 84
Helping the Government and Ourselves 85
One Nonessential Industry 85

MISCELLANEOUS

Notes and Comment 86
Miscellaneous 87
Book Reviews 89

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Warbasse's Surgical Treatment

This is a work on the therapy of surgical diseases. Every department of surgery is dealt with—not only *general surgery,* but *special surgery* as well—brain, eye, ear, nose, throat, skin, gynecology, genito-urinary, cosmetic and emergency surgery, heliotherapy, and bandaging. Under each division is taken up hygienic treatment, diet, preparation for operation, operating-room organization and materials, operative treatment in minutest detail, and post-operative care. The newest methods of treating wounds and infections, and the use of serums, vaccines, bacterins, and blood products are given. Much of the material on amputations, fractures, blood vessel surgery, and plastic operations is to be found in no other work. Indeed, there are detailed in these three volumes many operations and procedures that are peculiarly Dr. Warbasse's, and can be found nowhere else.

The various procedures, major and minor, are graphically depicted, step by step, by 2400 *original illustrations.* *Volume I Just Out. Volumes II and III in theEarly Fall.*

Three octavos totalling 3000 pages. By JAMES PETER WARBASSE, M. D., formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn, N. Y.

W. B. SAUNDERS COMPANY **Philadelphia and London**

DOCTOR:

Have you considered the many features

that make **Howe's DISTILLED WATER.** ***so desirable***

for drinking purposes?

Prepared by double distillation at a temperature of 330° F under 90 pounds pressure.

Filtered through three separate charcoal filters, each 14 feet in length.

Aerated with sterilized washed air.

Bottled under the strictest precautions; in sterilized glass containers.

Corked with sterilized corks and sealed.

Howe's DISTILLED WATER.

offers you a drinking water absolutely free from all organic and mineral impurities--far preferable to any spring water--as the latter can never offer any assurance of absence of organic contamination.

LOANED FREE TO CONSUMERS

CALL M. 4744, AND ORDER A TRIAL CASE TODAY

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Typhoid and Paratyphoid Immunization

Typhoid Fever is conquered only when a mixed vaccine containing Paratyphoid A and B bacilli in addition to the Typhoid Bacillus is used for immunization. We early recognized the importance of immunization against mixed typhoid infection and were first to introduce a Mixed Typhoid Vaccine in this country.

Typhoid Immunization by means of Mixed Typhoid Vaccine containing killed typhoid and Paratyphoid A and B bacilli has practically eliminated typhoid fever from the United States Army and Navy and from the military and naval forces in the present world war.

In health reports from camps and cantonments, typhoid cases are exceedingly rare, and when reported, are usually individuals who by some oversight have evaded immunization.

In the United States over 400,000 persons are incapacitated and over 30,000 die of typhoid fever each year* notwithstanding the fact that the immunizing value of typhoid bacterin and serobacterin is thoroughly established.

Typhoid Fever could be eliminated from the civil population just as it has been in the armies and navies of the world by extending the use of Bacterial Vaccines.

Typho-Serobacterin produces immunity more rapidly than the unsensitized bacterial vaccines, and reduces local and general reactions. This is of particular importance since the reduction of general reaction and time required for complete protection are now important factors in immunizing industrial workers.

Mulford Brand Typho-Serobacterin, Mixed, containing sensitized killed Typhoid and Paratyphoid A and B bacilli and **Mulford Brand Typho-Serobacterin** containing sensitized killed typhoid bacilli only, are supplied in three-syringe packages, constituting one complete immunizing treatment.

Also supplied in four-syringe packages for therapeutic use and in 5-mil vials.

---

*United States Public Health Bulletin No. 69, May, 1915.

H. K. MULFORD CO., Philadelphia, U. S. A.

33849 **Manufacturing and Biological Chemists**

Send for complete literature

The Characteristic Morphology of the Bacillus Bulgaricus

In pure and luxuriant growth is strikingly shown in the Fairchild Culture and Tablet.

The FAIRCHILD CULTURE is produced under the strictest bacteriological technic. It possesses to a maximum degree the qualities of longevity, activity, power. The medium employed is such as to endue it with a special adaptability for acclimation in the alimentary tract of man.

The potency of the Fairchild Culture against putrefactions and pernicious fermentations is convincingly shown in acute cases; marked improvement has been noted almost immediately following the administration of the fluid culture or the tablet. Clinical reports upon request; samples.

Fairchild Bros. & Foster
New York

Chloretone: Hypnotic and Sedative

Chloretone is indicated in acute mania, puerperal mania, periodical mania, senile dementia, agitated melancholia, motor excitement of general paresis; insomnia due to pain, as in tabes dorsalis, cancer, and trigeminal neuralgia; insomnia due to mental disturbance.

Chloretone is a useful sedative in such conditions as alcoholism, cholera and colic; in epilepsy, chorea, pertussis, tetanus and other spasmodic affections. It allays the nausea of pregnancy, gastric ulcer and seasickness.

Chloretone does not depress the heart or respiratory center.

Capsules: 3-grain and 5-grain, bottles of 100 and 500.
Crystals: Vials of 1 ounce.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 3. NASHVILLE, TENN., JULY, 1918 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES. Page

Surgery of the Thyroid—J. B. Haskins, M. D., Chattanooga 51
Surgical Management of Chronic Gastric and Duodenal Ulcers—R. L. Sanders, M. D., Memphis 57
Laryngeal Tuberculosis: Its Early Recognition and Curative Treatment—C. A. Robertson, M. D., Ridgetop 60
New Treatment of Epithelioma—G. C. Savage, M. D., Nashville 66
The Physician's Duty and His Responsibility to the Government in This Crisis—Maj. Frank D. Smythe, M. R. C., Memphis 74
Induration of the Corpora Cavernosa—Fibrous Cavernositis—Perry Bromberg, M. D., F. A. C. S., Nashville 78

EDITORIALS. Page

The Committee of National Defense—Medical Section 82
Reports of Communicable Diseases 82
Tennessee in M. R. C. 83
Information on the Volunteer Service Corps 84
Are We Going to Quit? 85
Must Back the Government With All Our Strength 85
Some Facts About Liberty Bonds 87
Chest Examinations 88
Pneumonia 89
Influenxal Sinus Disease 89
Gonococcus Endocarditis 90

MISCELLANEOUS.

Notes and Comment 90
Miscellaneous 91
Book Reviews 92

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Norris and Landis' *SECOND PRINTING*
Chest Diseases and Physical Diagnosis

This work is complete down to the last detail. That is, in fact, the keynote of the work—minute, specific detail in observation, with proper interpretation—the prime desideratum in diagnosis. The first part takes up the methods themselves. Inspection, palpation, percussion, and auscultation are completely covered in the examination both of the lungs and of the heart. The latter is amplified by a chapter on the electrocardiograph by Dr. Edward B. Krumbhaar. The second part takes up the particular diseases of the bronchi, of the lungs, of the pleura, diaphragm, pericardium, heart and aorta, and shows you exactly how to determine the diagnosis by the symptoms and findings. You get here the *application* of the four methods to your daily clinical work. There is no part of the field not completely covered. The section on tuberculosis alone is sufficient to constitute a book in itself. The illustrations are numerous, graphic, and original.

By GEORGE WILLIAM NORRIS, A. B., M. D., and H. R. M. LANDIS, A. B., M. D., Assistant Professors of Medicine, University of Pennsylvania. Octavo of 782 pages, with 413 illsutrations, mostly original. Cloth, $7.00 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

Trade Mark of Borden's Condensed Milk Co.
GAIL BORDEN
EAGLE
BRAND
Gail Borden
BORDEN'S CONDENSED MILK CO.
NEW YORK, U. S. A.

When summer heat affects the safety and quality of fresh cow's milk, Eagle Brand can be prescribed for infant feeding with absolute confidence in its uniform wholesomeness and absolute freedom from pathogenic organisms.

It eliminates the dangers of unknown, unidentified milk, is easily digested and always obtainable.

Made from selected, high-grade, fresh cow's milk and sugar, it is high in nutritive value and tolerated by delicate stomachs that rebel against an excess of fats.

Samples, Analysis and Informative Literature mailed on receipt of professional card.

BORDEN'S CONDENSED MILK CO.

EST. 1857 NEW YORK

J. McI. PHILLIPS T. A. BERRY

PASTEUR

Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a

PIONEER

In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium

Incorporoted

1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director

Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Immunize Your Patients Now Against

Fall Hay Fever

With Mulford Brand **Hay Fever Pollen Extracts**

Hay Fever "Fall" Pollen Extract contains the protein nitrogen obtained from the pollens of Ragweed, Golden-Rod and Corn. A few patients require immunization against all three of these pollens.

Hay Fever "Ragweed" Pollen Extract contains the protein nitrogen of Ragweed alone, the cause of practically all the Hay Fever cases occurring in the Fall.

Hay Fever Pollen Extracts—**"Fall"** and **"Ragweed"** —are supplied as follows:

No. 0.—In packages of four sterile syringes, A, B, C, D strength
No. 4.—In 20-mil vials, each mil strength of Syringe D
No. 9.—In 5-mil vials, each mil strength of Syringe D
No. 11.—Single syringe, D strength
No. 12.—Single syringe, E strength
No. 14.—Single syringe, F strength

Syringe A contains 0.0025 mg. pollen protein nitrogen
Syringe B contains 0.005 mg. pollen protein nitrogen
Syringe C contains 0.01 mg. pollen protein nitrogen
Syringe D contains 0.02 mg. pollen protein nitrogen
Syringe E contains 0.04 mg. pollen protein nitrogen
Syringe F contains 0.08 mg. pollen protein nitrogen

When ordering specify "Hay Fever Fall Pollen Extract" or "Hay Fever Ragweed Pollen Extract" as may be desired.

For immunization and treatment of Fall Hay Fever, first dose (Syringe A) should be given at least 30 days before expected attack, followed by B, C and D at five-day intervals. Syringe D strength should be used at weekly intervals until immunity is established. During the period of accustomed attack the extract should be used in such strength and at such intervals as the individual patient may require.

H. K. MULFORD CO., Philadelphia, U. S. A.

34618 **Manufacturing and Biological Chemists**

Full literature will be mailed upon request

The Characteristic Morphology of the Bacillus Bulgaricus

In pure and luxuriant growth is strikingly shown in the Fairchild Culture and Tablet.

The FAIRCHILD CULTURE is produced under the strictest bacteriological technic. It possesses to a maximum degree the qualities of longevity, activity, power. The medium employed is such as to endue it with a special adaptability for acclimation in the alimentary tract of man.

The potency of the Fairchild Culture against putrefactions and pernicious fermentations is convincingly shown in acute cases; marked improvement has been noted almost immediately following the administration of the fluid culture or the tablet. Clinical reports upon request; samples.

Fairchild Bros. & Foster
New York

Adrenalin in Hay Fever

IN either of the forms mentioned below, Adrenalin, in a vast majority of cases, provides a rational and effective treatment for hay fever. Sprayed into the nostrils, this powerful astringent constricts the capillaries, arrests the nasal discharge; minimizes cough, headache and other reflex symptoms; hastens the resumption of natural breathing, and secures for the patient a marked degree of comfort.

ADRENALIN CHLORIDE SOLUTION.

For spraying the nose and pharynx (after dilution with four to five times its volume of physiologic salt solution).

Supplied in ounce bottles, one in a carton.

ADRENALIN INHALANT.

For spraying the nose and pharynx (full strength or diluted with three to four times its volume of olive oil).

Supplied in ounce bottles, one in a carton.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI,
Number 4.
NASHVILLE, TENN., AUGUST, 1918
Per Year, $2.00
Single Copy, 20 Cents

CONTENTS

ORIGINAL ARTICLES. Page.

Acute Osteomyelitis—E. M. Sanders, M. D., Nashville 133
Report of the Committee on Social Medicine—By. Wm. Krauss, M. D., Chairman 141
Institutional Care of Infants—R. H. Perry, M. D., Nashville 147
The Detection of Feigned Blindness and Deafness—Herschell Ezell, M. D., Nashville 150
Kaiserism and the Medical Profession—William F. Clary, Capt., M. R. C., Memphis 152
Furunculosis and Its Treatment, Especially by Means of Yeast 154

EDITORIALS. Page.

Every Man in the M. R. C. 159
When They Come Back 159
Organization Necessary 160
From the President of the A. M. A. 160
One-Half Million Operations Free 162
Tennessee Physicians in the Army and Navy Medical Services 163
Enlistments in M. R. C. Not to Be Interrupted 168
Memorial Service for Dr. A. H. P. Sage 168
Dr. William A. Deithrich 168
Trachoma in Tennessee 169
Social Insurance 169
Brain Trauma 170
The Owen-Dyer Bill As Enacted 170

MISCELLANEOUS.

Notes and Comment 171
Miscellaneous 172
Book Reviews 173

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Southern Number Just Out
The Medical Clinic of North America

Clinic of Dr. J. B. McElroy,
Memphis General Hospital
Nephropathies
Clinic of Dr. George S. Bel,
Charity Hospital, New Orleans
Typhoid fever complicated with purulent cerebrospinal typhoidal meningitis and no intestinal lesions. Comparison of the essential pneumonias from the standpoint of their clinical significance.
Clinic of Dr. Charles L. Minor,
Asheville Mission Hospital.
Artificial pneumothorax (Forlanini). Its application to the arrest or cure of pulmonary tuberculosis
Contribution by James S. McLester, Major, R.M.C.
Chief of the Medical Service, Base Hospital, Camp Sheridan, Ala.
Certain measures to prevent the dissemination of disease
Clinic of Dr. Bryce W. Fontaine,
Memphis General Hospital
Achondroplasia
Tuberculosis of peritoneum
Syphilitic fever
Clinic of Dr. C. C. Bass,
Tulane Medical College
Malaria: Three types, their diagnosis and treatment
Clinic of Dr. Lawrence T. Royster,
Foundling Ward, Norfolk, S. P. C. C.
Care of the premature infant
Clinic of Dr. J. Ross Snyder,
St. Vincent's Hospital, Birmingham.
Study of ten pellagrins in two families living in the same neighborhood
Clinic of Dr. J. Heyward Gibbes,
Columbia Hospital, S. C.
Hodgkin's disease
Reflex gastrospasm
Clinic of Dr. Wm. H. Deaderick,
Memorial Hospital, Hot Springs.
Treatment of malaria
Clinic of Dr. Robert Wilson, Jr.,
Rope Hospital, Charleston, S. C.
Gonococcemia
Clinic of Dr. James E. Paullin,
Grady Hospital, Atlanta.
Myocardial infarct following coronary sclerosis
Clinic of Dr. John P. Monroe,
Charlotte Sanatorium.
Severe headaches

Complete index to the year's six numbers

The Medical Clinics of North America. Issued serially, one octavo of about 250 pages, illustrated, every other month (six numbers a year.) Per Clinic Year (July to May), Cloth, $14.00 net; paper, $10.00 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

Trade Mark of Borden's Condensed Milk Co.
Reg. U. S. Pat. Of.
GAIL BORDEN
EAGLE BRAND
by which their Preserved Milk will hereafter be designated, and for additional protection against imposition, each label will bear the signature.
Gail Borden
BORDEN'S CONDENSED MILK CO.
NEW YORK, U. S. A.

THE problem of artificially feeding infants during the heated term is complicated by the danger of disease transmission through fresh cow's milk of questionable origin.

Borden's Eagle Brand Condensed Milk is prepared under strictly sanitary conditions from selected high-grade cow's milk and sugar. Its purity and cleanliness can be safely relied upon.

Samples, analysis and literature will be mailed on receipt of professional card.

BORDEN'S CONDENSED MILK CO.
New York

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Immunize Your Patients Against

Fall Hay Fever

With Mulford Brand Hay Fever Pollen Extracts

Hay Fever "Fall" Pollen Extract contains the protein nitrogen obtained from the pollens of Ragweed, Golden-Rod and Corn. A few patients require immunization against all three of these pollens.

Hay Fever "Ragweed" Pollen Extract contains the protein nitrogen of Ragweed alone, the cause of practically all the Hay Fever cases occurring in the Fall.

Hay Fever Pollen Extracts—"**Fall**" and "**Ragweed**"—are supplied as follows:

No. 0.—In packages of four sterile syringes, A, B, C, D strength
No. 4.—In 20-mil vials, each mil strength of Syringe D
No. 9.—In 5-mil vials, each mil strength of Syringe D
No. 11.—Single syringe, D strength
No. 12.—Single syringe, E strength
No. 14.—Single syringe, F strength

Syringe A contains 0.0025 mg. pollen protein nitrogen
Syringe B contains 0.005 mg. pollen protein nitrogen
Syringe C contains 0.01 mg. pollen protein nitrogen
Syringe D contains 0.02 mg. pollen protein nitrogen
Syringe E contains 0.04 mg. pollen protein nitrogen
Syringe F contains 0.08 mg. pollen protein nitrogen

When ordering specify "Hay Fever Fall Pollen Extract" or "Hay Fever Ragweed Pollen Extract" as may be desired.

For immunization and treatment of Fall Hay Fever, first dose (Syringe A) should be given at least 30 days before expected attack, followed by B, C and D at five-day intervals. Syringe D strength should be used at weekly intervals until immunity is established. During the period of accustomed attack the extract should be used in such strength and at such intervals as the individual patient may require.

H. K. MULFORD CO., Philadelphia, U. S. A.

34618

Manufacturing and Biological Chemists

Full literature will be mailed upon request

The Characteristic Morphology of the Bacillus Bulgaricus

In pure and luxuriant growth is strikingly shown in the Fairchild Culture and Tablet.

The FAIRCHILD CULTURE is produced under the strictest bacteriological technic. It possesses to a maximum degree the qualities of longevity, activity, power. The medium employed is such as to endue it with a special adaptability for acclimation in the alimentary tract of man.

The potency of the Fairchild Culture against putrefactions and pernicious fermentations is convincingly shown in acute cases; marked improvement has been noted almost immediately following the administration of the fluid culture or the tablet. Clinical reports upon request; samples.

Fairchild Bros. & Foster
New York

Adrenalin in Hay Fever

IN either of the forms mentioned below, Adrenalin, in a vast majority of cases, provides a rational and effective treatment for hay fever. Sprayed into the nostrils, this powerful astringent constricts the capillaries, arrests the nasal discharge; minimizes cough, headache and other reflex symptoms; hastens the resumption of natural breathing, and secures for the patient a marked degree of comfort.

ADRENALIN CHLORIDE SOLUTION.

For spraying the nose and pharynx (after dilution with four to five times its volume of physiologic salt solution).

Supplied in ounce bottles, one in a carton.

ADRENALIN INHALANT.

For spraying the nose and pharynx (full strength or diluted with three to four times its volume of olive oil).

Supplied in ounce bottles, one in a carton.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

OF PHYSICIANS LIBRARY OF PHILADELPHIA

THE JOURNAL OF THE Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 5. NASHVILLE, TENN., SEPTEMBER, 1918 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES.

	Page
Eye Requirements for Aviators. By Robert Fagin, B. A., M. D., Memphis	177
Report of a Case of Traumatic Stricture of the Larynx. By Hilliard Wood, M. D., Nashville	179
Treatment of Mastoid Disease. By Lt. J. P. Crawford, M. R. C., Nashville	181
Low Back Pains. By Adam G. Nichol, M. D., Nashville	185
A Program for Anti-Tuberculosis Work. By H. M. Shoulders, M. D., Nashville	186
Complete Intestinal Obstruction from Carcinoma of the Sigmoid and Rectum. By W. D. Haggard, M. D., F. A. C. S., and W. O. Floyd, B. S., M. D., Nashville	190
Goiter. By Drs. E. H. and J. P. Baird, Dyersburg	195

EDITORIAL.

	Page
Camouflage	198
Things That Are Certain	198
An Appeal for Nurses	198
Send in Your Papers, Please	199
Tennessee Physicians in the Army and Navy Service	199
The Volunteer Medical Service Corps	200
Volunteer Medical Service Corps Organization	200
Robertson County Reorganized	202

MISCELLANEOUS.

	Page
Miscellaneous	202

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

A Text-Book of Experience

—the crystallization of that experience accruing from the examination of 180,000 *actual cases* brought to the Massachusetts General Hospital for treatment. Two handsome volumes of this experience—1473 pages—in which are analyzed for you over 700 of these cases—types of the whole—analyzed and grouped according to their presenting symptoms—the *principal complaint* that brought these particular patients to the hospital. That is the sort of clinical instruction you get in

Cabot's Differential Diagnosis

VOLUME I (*Third Edition*). Headache, general abdominal pain, epigastric pain, right hypochondriac pain, left hypochondriac pain, right iliac pain, left iliac pain, axillary pain, pain in arms, pain in legs and feet, fevers, chills, coma, convulsions, weakness, cough, vomiting, hematuria, dyspnea, jaundice and nervousness—21 symptoms and 385 cases.

VOLUME II (*Second Edition*) Abdominal and other tumors, vertigo, diarrhea, dyspepsia, hematemesis, enlarged glands, blood in stools, swelling of face, hemoptysis, edema of legs, frequent micturition and polyuria, fainting, hoarseness, pallor, swelling of arm, delirium, palpitation and arhythmia, tremor, ascites and abdominal enlargement—a total of 19 symptoms and 317 instructive cases.

Two octavos, averaging 737 pages each, illustrated. By RICHARD C. CABOT, M. D., Professor of Clinical Medicine, Harvard Medical School. Per volume: Cloth, $6.00 net (*sold separately.*)

W. B. SAUNDERS COMPANY **Philadelphia and London**

In the Convalescence of Typhoid Fever

IN typhoid fever Borden's Malted Milk is advisable throughout the entire period of illness, as well as during convalescence.

Borden's Malted Milk contains rich full-cream milk in combination with strengthening cereals. It is pleasantly palatable and highly nutritious.

Samples, analysis and literature will be furnished on receipt of professional card.

Malted Milk Department
BORDEN'S CONDENSED MILK CO.
NEW YORK

Borden's
MALTED MILK

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25 00 to $35 00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Immunizing the Nation

Health conservation and labor efficiency are absolutely essential to win the war.

The government has asked that steps be taken to prevent smallpox and typhoid fever in establishments manufacturing materials for the Army and Navy and every soldier and sailor is immunized against these diseases upon entering the service.

Civilian communities should have the same protection against epidemics of communicable diseases as are accorded the soldier, sailor and the war worker.

The modern physician is depended upon not only for the cure of diseases, but also for their prevention in so far as that is possible.

The Mulford Laboratories have earned the reputation for dependability in supplying Biological Products for immunization and treatment.

We are ready for the Fall and Winter demands for Antipneumococcic Serum Polyvalent, Antistreptococcic Serum, Antimeningitis Serum, Antidiphtheric Serum, Smallpox Vaccine, Typho-Serobacterin Mixed, and a full line of other serums, bacterins and serobacterins.

When you specify Mulford Biological Products, you are assured of preparations of the highest quality, made under the strictest, scientific control, and supplied promptly through our system of branch houses and depots over the entire country.

H. K. MULFORD CO., Philadelphia, U. S. A.

35431 **Manufacturing and Biological Chemists**

Literature Mailed on Request

The Characteristic Morphology of the Bacillus Bulgaricus

In pure and luxuriant growth is strikingly shown in the Fairchild Culture and Tablet.

The **FAIRCHILD CULTURE** is produced under the strictest bacteriological technic. It possesses to a maximum degree the qualities of longevity, activity, power. The medium employed is such as to endue it with a special adaptability for acclimation in the alimentary tract of man.

The potency of the Fairchild Culture against putrefactions and pernicious fermentations is convincingly shown in acute cases; marked improvement has been noted almost immediately following the administration of the fluid culture or the tablet. Clinical reports upon request; samples.

Fairchild Bros. & Foster
New York

Chloretone: Hypnotic and Sedative

Chloretone induces profound, refreshing slumber.

It acts as a sedative to the cerebral, gastric and vomiting centers.

It does not depress the heart.

It does not disturb the digestive functions.

It produces no objectionable after-effects.

It does not cause habit-formation.

Chloretone has been pronounced the most satisfactory hypnotic and sedative available to the medical profession.

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.
Dose, 3 to 15 grains.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI,
Number 6.

NASHVILLE, TENN., OCTOBER, 1918

Per Year, $2.00
Single Copy, 20 Cents

CONTENTS

ORIGINAL ARTICLES

Page
The Proper Interpretation of Bladder Symptoms. Geo. R. Livermore, M.D., F.A.C.S., Memphis ---------------- 217
Surgical Treatment of Varicose Veins. Wm. Sailer Anderson, M.D., Memphis- 220
Antrum Infection. Walter Dotson, M.D., Lebanon ------------------------ 223
Preliminary Report of Radium Cases. E. T. Newell, M.D., Chattanooga-------- 226
Prevailing Indications for Complete Ablation of the Tonsils and Adenoids. M. E. Hartsook, M.D., Johnson City----- 230
To Prevent Traumatism. L. M. Scott, M.D., Jellico ------------------------ 235

EDITORIALS

Page
The Volunteer Medical Corps Under Fire- 239
Birth Certificates --------------------- 241
Mobilizing of Women Physicians for Anesthetic Service --------------------- 241
Tennessee Physicians in France -------- 241
Influenza ----------------------------- 242
A Liar ------------------------------- 244
Southern Medical Postponed ----------- 244
Applied for Membership V. M. S. C.------ 244
Mr. Wilson Approves ------------------ 245
Miscellaneous ------------------------ 246

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Diagnosis

Diagnosis is the pivot upon which all treatment swings. Unless the diagnosis is *correct* the plan of treatment naturally fails. Unless the correct diagnosis is arrived at *early* the full effectiveness of the treatment is lost —at times with fatal results. The new (4th) edition of

Todd's Clinical Diagnosis

aims to give aid in determining the correct diagnosis early. It is not only a clinical diagnosis, but a complete clinical laboratory guide as well, in every case clearly pointing out the significance of the findings.

The work has many features not possessed by other books in the same field. It is small in size, yet comprehensive. It gives full descriptions of methods and microscopic structures. Its illustrations are numerous and accurate. It is strictly down to the minute, containing such new material as matching blood for transfusion, a subject of great importance in military work; the new Bass and Johns concentration method for malarial parasites; the mastic reaction in the spinal fluid; the Wilber and Addis method for urobilin in diagnosing pernicious anemia; the new serodiagnostic methods. *The work is used at the various Base Hospitals.*

12mo of 687 pages, with 232 illustrations, some in colors. By JAMES CAMPBELL TODD, M.D., Professor of Clinical Pathology, University of Colorado. Cloth, $3.00 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

The sanitary conditions under which Borden's Eagle Brand is prepared remove all doubt concerning its purity and desirability for the artificial feeding of infants.

For sixty-two years Eagle Brand has been specified with confidence, because it is known to be safe, uniform and dependable.

It is prepared from selected high-grade cow's milk and sugar, and sealed in hygienic containers. It is easily digested and readily assimilated.

Samples, analysis and literature will be mailed upon receipt of professional card.

BORDEN'S CONDENSED MILK CO.
New York

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Immunizing the Nation

Health conservation and labor efficiency are absolutely essential to win the war.

The government has asked that steps be taken to prevent smallpox and typhoid fever in establishments manufacturing materials for the Army and Navy and every soldier and sailor is immunized against these diseases upon entering the service.

Civilian communities should have the same protection against epidemics of communicable diseases as are accorded the soldier, sailor and the war worker.

The modern physician is depended upon not only for the cure of diseases, but also for their prevention in so far as that is possible.

The Mulford Laboratories have earned the reputation for dependability in supplying Biological Products for immunization and treatment.

We are ready for the Fall and Winter demands for Antipneumococcic Serum Polyvalent, Antistreptococcic Serum, Antimeningitis Serum, Antidiphtheric Serum, Smallpox Vaccine, Typho-Serobacterin Mixed, and a full line of other serums, bacterins and serobacterins.

When you specify Mulford Biological Products, you are assured of preparations of the highest quality, made under the strictest, scientific control, and supplied promptly through our system of branch houses and depots over the entire country.

H. K. MULFORD CO., Philadelphia, U. S. A.
35431 **Manufacturing and Biological Chemists**

Literature Mailed on Request

The Use of Pepsencia To Promote Toleration

Of Potassium Iodide, Salicylates, and drugs which ordinarily disturb digestion (valuable and almost amazing as it is in effect) affords very striking evidence that Pepsencia conveys some constituents which are extremely salutary and agreeable to the stomach.

We have here a means of administering continuously in chronic cases important drugs which are so often disturbing to digestion that they cannot be employed in effective dosage.

Pepsencia is not merely a vehicle, something to make potassium iodide or salicylate of soda "taste good;" it insures actual tolerance of the drug, physical and physiological.

Pepsencia is the registered U. S. Title
for Essence of Pepsine, Fairchild.

Please specify by this title—Pepsencia.

Fairchild Bros. & Foster
New York

IT LEAVES NOTHING TO BE DESIRED

IN the preparation of our Antidiphtheric Serum the element of guesswork never enters. Modern scientific methods mark every step in the process of manufacture.

We maintain a large stock-farm, miles from the smoke and dust of the city, where are kept the animals used in serum production.

Our biological stables are provided with an abundance of light and fresh air and a perfect system of drainage. They are under the constant supervision of skilled veterinary surgeons.

Before admission to the stables each horse is subjected to a rigid physical examination, and no animal is eligible that has not been pronounced sound by expert veterinarians.

Immunization and bleeding of horses are conducted in accordance with modern surgical methods.

The product is marketed in hermetically sealed glass containers, and every lot is bacteriologically and physiologically tested.

CONCENTRATED
ANTIDIPHTHERIC SERUM
(GLOBULIN)

Bio. 16—1000 antitoxic units.
Bio. 18—3000 antitoxic units.
Bio. 20— 5000 antitoxic units.
Bio. 22—10,000 antitoxic units.

SPECIFY "P. D. & CO." ON ORDERS TO YOUR DRUGGIST.

HOME OFFICES AND LABORATORIES,
DETROIT, MICHIGAN.

Parke, Davis & Co.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI,
Number 7.
NASHVILLE, TENN., NOVEMBER, 1918
Per Year, $2.00
Single Copy, 20 Cents

CONTENTS

ORIGINAL ARTICLES Page

The Medical Aspect of Dental Caries in Childhood. R. H. Perry, M.D., Nashville ---------- 257

Some Clinical Observations on Primary Infection of the Mastoid, With Report of Case. O. Dulaney, M.D., Dyersburg 264

A Discussion of Seven Thousand Injuries. Duncan Eve, Jr., M.D., Nashville---- 269

EDITORIALS Page

Tuberculosis in Tennessee in 1917----- 277

Members of Tennessee State Medical Association for 1918 ---------- 279

MISCELLANEOUS.

Acne Vulgaris ---------- 289

A Suggestion for Spanish Influenza------ 291

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Hirst's Obstetrics

JUST READY
NEW (8th) EDITION

This edition is virtually a new work. The revision was so heavy that the book had to be reset. All the new advances in the field of obstetrics are included, presenting the subject from the viewpoint of modern obstetrics. Among the more important and extensive additions are new methods of anesthesia, new operations for repair of injuries to the birth canal, new technic for cesarean section and for other obstetric operations. Many new illustrations have been added, the work now containing 715 illustrations, 38 of them in colors.

Dr. Hirst's book has long been a standard. This present edition is a summary of thirty years of active practice devoted exclusively to obstetrics and gynecic surgery. During this time Dr. Hirst has served as consulting and attendant obstetrician and gynecologist to eight of the principal hospitals of Philadelphia, and has been engaged in teaching clinics, hospitals, laboratories, and the lecture room. His work, therefore, is an ideal text-book for the undergraduate, and a practical guide for the general practitioner.

Octavo of 863 pages, with 715 illustrations, 38 in colors. By Carton Cooke Hirst, M.D., LL.D., Professor of Obstetrics, University of Pennsylvania. Cloth, $5.00 net.

W. B. SAUNDERS COMPANY **Philadelphia and London**

Trade Mark of Borden's Condensed Milk Co.
GAIL BORDEN
EAGLE
BRAND
Gail Borden
BORDEN'S CONDENSED MILK CO.
NEW YORK, U. S. A.

The sanitary conditions under which Borden's Eagle Brand is prepared remove all doubt concerning its purity and desirability for the artificial feeding of infants.

For sixty-two years Eagle Brand has been specified with confidence, because it is known to be safe, uniform and dependable.

It is prepared from selected high-grade cow's milk and sugar, and sealed in hygienic containers. It is easily digested and readily assimilated.

Samples, analysis and literature will be mailed upon receipt of professional card.

BORDEN'S CONDENSED MILK CO.
New York

J. McI. PHILLIPS　　T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St.　　Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Pneumonia

The Medical Departments of the U. S. Army and Navy now recognize the serum treatment of Pneumonia as specific and have adopted it as a routine practice.

While we prepare a monovalent Type I Pneumonia Serum, recognizing the danger of delayed administration of serum while making type determination of infection, and further realizing the probable danger of re-infection during convalescence, we are fully warranted in assuming the position that the use of Polyvalent Pneumonia Serum possessing the same specific action against Type I infection as the Type I Serum and in addition containing protective substances against Types II and III, should be used in routine practice where type determination can not be made within a few hours.

Antipneumococcic Serum Type I, is standardized by animal protective tests against Type I pneumococcus. One mil of the serum protects against 500,000 fatal doses of Type I Culture. Pneumonia caused by this type has proven most amenable to serum treatment.

Antipneumococcic Serum Polyvalent, has the same protective value against Type I infections as Type I Serum, and also contains antibodies for Types II and III, therefore, it is indicated in all cases where quick determination of type infection is impossible. Antipneumococcic Serums are furnished in ampuls of 50 mils for intravenous injection.

Dosage.—The best results are obtained by administering from 50 to 100 mils intravenously, repeated every six to eight hours until the patient successfully passes the crisis. Most cases will require 300 mils or more. When injected intramuscularly, the results are slower and less effective.

For Preventive Inoculation

The Use of Bacterins in the prevention and treatment of pneumonia is recommended by Rosenow. See Journal A. M. A., March 16, 1918, p.759. Fleming, Practitioner, April, 1917, p. 332. S. Solis-Cohen, Medical Record, April 27, 1918, p. 743. Lister Publication No. 10, South Africa Institute for Medical Research, 1917.

Pneumo-Serobacterin is indicated as a prophylactic. It is supplied in packages of four graduated syringes, A, B, C, D strength, and in syringes of D strength separately. Syringe A contains 250 million; Syringe B, 500 million; Syringe C, 1000 million; Syringe D, 2000 million sensitized killed bacteria.

H. K. MULFORD CO., Philadelphia, U. S. A.

36171 **Manufacturing and Biological Chemists**

**Literature sent on request
with full laboratory tests**

The Use of Pepsencia To Promote Toleration

Of Potassium Iodide, Salicylates, and drugs which ordinarily disturb digestion (valuable and almost amazing as it is in effect) affords very striking evidence that Pepsencia conveys some constituents which are extremely salutary and agreeable to the stomach.

We have here a means of administering continuously in chronic cases important drugs which are so often disturbing to digestion that they cannot be employed in effective dosage.

Pepsencia is not merely a vehicle, something to make potassium iodide or salicylate of soda "taste good;" it insures actual tolerance of the drug, physical and physiological.

Pepsencia is the registered U. S. Title
for Essence of Pepsine, Fairchild.

Please specify by this title—Pepsencia.

Fairchild Bros. & Foster
New York

IT LEAVES NOTHING TO BE DESIRED

In the preparation of our Antidiphtheric Serum the element of guesswork never enters. Modern scientific methods mark every step in the process of manufacture.

We maintain a large stock-farm, miles from the smoke and dust of the city, where are kept the animals used in serum production.

Our biological stables are provided with an abundance of light and fresh air and a perfect system of drainage. They are under the constant supervision of skilled veterinary surgeons.

Before admission to the stables each horse is subjected to a rigid physical examination, and no animal is eligible that has not been pronounced sound by expert veterinarians.

Immunization and bleeding of horses are conducted in accordance with modern surgical methods.

The product is marketed in hermetically sealed glass containers, and every lot is bacteriologically and physiologically tested.

CONCENTRATED

ANTIDIPHTHERIC SERUM

(GLOBULIN)

Bio. 16—1000 antitoxic units.
Bio. 18—3000 antitoxic units.
Bio. 20— 5000 antitoxic units.
Bio. 22—10,000 antitoxic units.

SPECIFY "P. D. & CO." ON ORDERS TO YOUR DRUGGIST.

HOME OFFICES AND LABORATORIES,
DETROIT, MICHIGAN.

Parke, Davis & Co.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 8. NASHVILLE, TENN., DECEMBER, 1918 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES.

Page

Some Recent Cases of Foreign Body in the Trachea, Bronchi and Esophagus. Richmond McKinney, M.D., F.A.C.S., Memphis ---------------------- 293

"Spanish Flu." J. J. Waller, M.D., Oliver Springs, Tenn. ------------------ 298

Ovarian Influences. George H. West, M.D., Chattanooga ---------------------- 300

A Consideration of Backward and Downward Displacements of the Uterus. J. F. Gallagher, M.D., F.A.C.S., Nashville 305

Page

Some Unsettled Points in the Etiology of Appendicitis. Drs. E. H. and J. P. Baird, Dyersburg ---------------- 310

EDITORIALS

Select the Best ---------------------- 315
A New Membership Year -------------- 315
The 1919 Annual Meeting ------------ 316
To County Secretaries -------------- 317
Recommend for Commissions ---------- 317
Needed Legislation ----------------- 318
Miscellaneous ---------------------- 319

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Hirst's (John C.) Gynecology *JUST OUT A NEW WORK*

The striking feature of Dr. John C. Hirst's new Gynecology is its *practical* character—it tells you not only *what* to do, but *how to do it.* It gives detailed attention to the non-operative, medical, and office treatment of diseases of women. *One plan of treatment* is set down definitely for the guidance of the physician.

Leukorrhea, a frequent complaint coming to the practitioner, is given special and extended consideration, with the causes, diagnosis, and treatment. The use of extracts of glands of internal secretion is dwelt upon, and their action clearly defined.

Lacerations and consequences of childbirth are considered from the *obstetric* standpoint as well as from the *gynecologic.* There is a chapter on *gonorrhea*—its diagnosis and treatment, particularly medical and office treatment, and a chapter on the use of electricity, roentgen rays, radium, mesothorium, and Finsen light.

The last chapter, on general technic, contains all details of preparation and after-treatment, and the treatment of post-operative complications. This is particularly valuable to general practitioners who have to assume the care of their patients after the consulting surgeon has operated.

12mo of 466 pages, with 175 illustrations. By John Cooke Hirst, M. D., Associate in Obstetrics, University of Pennsylvania.

A Very Merry Christmas!

W. B. SAUNDERS COMPANY **Philadelphia and London**

IN the days of pneumonia convalescence, Borden's Malted Milk provides an important article in the diet. By supplying the greatest amount of nourishment in a most digestible and assimilable form, it helps to dispel general languidness and restores normal strength.

Borden's Malted Milk—pure, rich cow's milk malted by an improved process—makes a partially predigested food-drink that is wholesome and upbuilding. Served hot or cold it is especially appealing to the delicate appetite.

Send professional card for sample, analysis and literature.

Malted Milk Department
BORDEN'S CONDENSED MILK CO.
Borden Building New York

Borden's
MALTED
MILK

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

Pneumonia and Empyema

The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

1st. IMMUNIZATION

Preventing Infection with an appropriate Serobacterin or Bacterin. Reports from physicians in charge of medical work connected with industrial institutions, boards of health, and general practitioners, abundantly justify the prophylactic use of Influenza Serobacterin containing the organisms isolated from the present epidemic, in preventing influenza and pneumonia.

2d. TREATMENT

In streptococcus pneumonia the early use of Antistreptococcic Serum Polyvalent **administered intravenously, in full doses (100 to 200 mils), repeated every 8 to 12 hours or as indicated.** This serum contains the antibodies against the different streptococci isolated from the present epidemic. Especial reference is made to the *streptococcus hemolyticus.*

In pneumococcus pneumonia the **early use** of Antipneumococcic Serum Polyvalent **administered intravenously in full doses (100 to 200 mils), repeated every 8 to 12 hours or as indicated.** The Medical Departments of the United States Army and Navy recognize the serum treatment as specific.

In mixed infections the conjoint use of both sera is indicated.

We prepare a Monovalent Antipneumococcic Serum **Type I** and a **Polyvalent** Antipneumococcic Serum. The polyvalent serum contains the same amount of antibodies against Type I pneumococcus as the Type I serum and in addition contains antibodies against Types II and III.

The danger of delayed administration of serum while making type determination and the danger of re-infection during convalescence is recognized; therefore, preference may be given to the **polyvalent serum** in routine practice where type determination is impractical.

These Serums are furnished in 50-mil Ampuls with apparatus for intravenous injection.

Literature mailed upon request

H. K. MULFORD CO., Philadelphia, U. S. A.

36553 **Manufacturing and Biological Chemists**

PANOPEPTON

Has been of great service in this epidemic Influenza-Pneumonia.

It has been thus extensively resorted to because of its long proven value in the every-day therapeutics of feeding.

Panopepton has **always** contained the entire digestible substance of the whole wheat berry and entire lean beef as obtained under the regulated action of stomach and pancreas gland tissue juices in order to convert and set free all the complex basic proteins and carbohydrates and associated organic and inorganic constituents—minute, but of **vital** importance.

The highly diversified nitrogenous substances are in a non-coagulable, highly diffusible and assimilable form, and in great part consisting of amino-acids, the ultimate cleavage products.

Panopepton is a completely and quickly assimilable dynamic food of remarkably nourishing and restorative properties, a proven resource in depressing, exhausting disease.

Panopepton is a substantial food—24 per cent of actual food solids in a standardized, balanced ratio, nitrogenous and carbohydrate.

Panopepton is found personally useful by the physician himself in these arduous days of fatigue and deprivation of sleep.

We shall be pleased to send Panopepton to any physician, upon request.

Fairchild Bros. & Foster
New York

The Handy Ampoule

PARKE, DAVIS & CO.'S Ampoules of Sterilized Solutions have the approval of the foremost physicians and surgeons of America and Europe.

They are ready for immediate use.

They are aseptic.

The dose is accurate, a definite amount of medicament being contained in each milliliter of solution.

The drug is treated with the most suitable solvent—distilled water, physiologic salt solution, or oil, as the case may be.

The container is hermetically sealed, preventing bacterial contamination.

An impervious cardboard carton protects the solution against the actinic effect of light.

We supply upward of eighty ready-to-use sterilized solutions.

◆ ◆ ◆

SEND FOR THIS BOOK.—Our new Ampoules brochure contains a full list of our Sterilized Solutions, with therapeutic indications, descriptions of packages, etc. It has a convenient therapeutic index. Every physician should have this book. A post-card request will bring you a copy.

PARKE, DAVIS & COMPANY
Home Offices and Laboratories, Detroit, Michigan.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 10. NASHVILLE, TENN., FEBRUARY, 1919 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES.

Page
An Epidemilogic Study of the Recent Outbreak of Epidemic Influenza in Nashville, Tenn. R. C. Derivaux and W. E. Hibbett, M. D. ---------------- 363
The Social Evil. C. A. Abernathy, M. D., Pulaski ---------------------------- 371
The Clergyman and the Physician—Some Thoughts on Revealed and Natural Religion. George R. West, M. D., Chattanooga ---------------------------- 375
Statistics of the Epidemic of Influenza in New York City. William H. Guilfoy, M. D. ---------------------------- 379
Clinical Notes on the Influenza Epidemic. W. L. Somerset, M. D. ------------- 383
Scientific Medicine: What It Is and What It Is Not. Edwin Linton, Ph. D.---- 385

EDITORIALS.

Our Annual Meeting ------------------ 390
Proposed Legislation Affecting State Board of Health ------------------------ 390
Mr. County Secretary ---------------- 392
Reported to Date -------------------- 392
Specialists—Ethical and Otherwise-------- 392
Notes and Comment ------------------- 395
Miscellaneous ----------------------- 397

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

COLLEGE OF PHYSICIANS
LIBRARY
MAR 7 1919
OF PHILADELPHIA

McJunkin's *Just Ready*
Clinical Microscopy & Chemistry

This is really a clinical pathology, omitting no step from obtaining the pathologic material to interpretation of the findings. It is a book on the use of the microscope and chemical analysis in the diagnosis of disease, giving the common laboratory methods employed by the physician in the practice of medicine. Special emphasis is given to the chemical, bacteriologic, serologic, and pathologic methods. Only those procedures are included which have a definite use. This makes for practical value and avoids the confusion arising from a multitude of methods.

Throughout the book Dr. McJunkin strikingly points out the application of clinical microscopy and chemistry to bedside practice, frequently adding information bordering on clinical medicine and even detailing symptoms. This gives his book a practical value not found in other works covering the same field. The section on histologic and pathologic technic covers 132 pages, correlating the normal and the pathologic with the material commonly studied in the laboratory. The directions for the equipment and management of this department of a hospital laboratory if followed will make for greater efficiency in this field of hospital work.

Octavo of 470 pages, illustrated. By F. A. McJunkin, M. M., Professor of Pathology at Marquette University School of Medicine

W. B. SAUNDERS COMPANY **Philadelphia and London**

Borden's Malted Milk is the result of sixty-two years' experience in handling milk products.

It is the result of a system which safeguards the production at the dairy farm with rigidly sanitary conditions and protects the purity of the milk at every stage thereafter.

It is the result of an improved process by which malt ferments really act upon the casein of rich milk, partially predigesting the protein element and converting it into a partial peptone, facilitating complete and easy digestion and assimilation.

Samples, analysis and literature will be mailed on receipt of professional card.

Malted Milk Department

BORDEN'S CONDENSED
MILK COMPANY

Borden Building New York

Borden's
MALTED MILK

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted

1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

Pneumonia

The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

1st. IMMUNIZATION

Preventing infection with an appropriate Serobacterin or Bacterin. Reports from physicians in charge of medical work connected with industrial institutions, boards of health, and general practitioners, abundantly justify the prophylactic use of a suitable Serobacterin or Bacterin containing the organisms isolated from the present epidemic, in preventing influenza and pneumonia.

The Conference held at the British War Office, October 14, 1918, Col. Sir Wm. Leishman, Chairman, reported in favor of immunization and treatment of infections with suitable bacterins.—See British Med. Jour., Oct. 26, 1918, p. 470.

2d. TREATMENT

In streptococcus pneumonia the early use of Antistreptococcic Serum Polyvalent **administered intravenously, in full doses (100 to 200 mils), repeated every 8 to 12 hours as indicated.** This serum contains the antibodies against the different streptococci isolated from the present epidemic. Especial reference is made to the *streptococcus hemolyticus.*

In pneumococcus pneumonia the **early use** of Antipneumococcic Serum Polyvalent **administered intravenously in full doses (100 to 200 mils), repeated every 8 to 12 hours or as indicated.** The superiority of Polyvalent Serum was proven in a series of cases treated with Polyvalent Serum and a series treated with Type I Serum only, when found due to be Type I Pneumococcus infection. See report by Medalia and Shiff, M. C. U. S. Army, Jour. A. M. A., Nov. 30, 1918, p. 1821.

In mixed infections the conjoint use of both sera is indicated.

We prepare a Monovalent Antipneumococcic Serum **Type I** and a **Polyvalent** Antipneumococcic Serum. The Polyvalent Serum contains the same amount of antibodies against Type I pneumococcus as the Type I Serum and in addition contains antibodies against Types II and III. Preference may be given to the Polyvalent Serum where type determination is impracticable.

These Serums are furnished in 50-mil Ampuls with Apparatus for intravenous injection.

Literature mailed upon request

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

H. K. Mulford Company
Manufacturing and Biological Chemists
Philadelphia, U. S. A.

36936

PANOPEPTON

Has been of great service in this epidemic Influenza-Pneumonia.

It has been thus extensively resorted to because of its long proven value in the every-day therapeutics of feeding.

Panopepton has **always** contained the entire digestible substance of the whole wheat berry and entire lean beef as obtained under the regulated action of stomach and pancreas gland tissue juices in order to convert and set free all the complex basic proteins and carbohydrates and associated organic and inorganic constituents—minute, but of **vital** importance.

The highly diversified nitrogenous substances are in a non-coagulable, highly diffusible and assimilable form, and in great part consisting of amino-acids, the ultimate cleavage products.

Panopepton is a completely and quickly assimilable dynamic food of remarkably nourishing and restorative properties, a proven resource in depressing, exhausting disease.

Panopepton is a substantial food—24 per cent of actual food solids in a standardized, balanced ratio, nitrogenous and carbohydrate.

We shall be pleased to send Panopepton to any physician, upon request.

Fairchild Bros. & Foster
New York

Chloretone

A Broadly Serviceable Hypnotic and Sedative

Chloretone induces profound, refreshing slumber.
It is a sedative to the cerebral, gastric and vomiting centers.
It is relatively non-toxic.
It does not disturb the digestive functions.
It produces no depressing after-effects.
It is not "habit-forming."

◆ ◆ ◆

Chloretone has been pronounced the most satisfactory hypnotic and sedative available to the medical profession.

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

THE JOURNAL

OF THE

Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI, Number 11. NASHVILLE, TENN., MARCH, 1919 **Per Year, $2.00 Single Copy, 20 Cents**

CONTENTS

ORIGINAL ARTICLES.

Page
Vocational Training for Inmates of Institutions for Mental and Nervous Diseases. R. E. L. Smith, M. D., Knoxville 403
The Alienist. L. D. Smith, Knoxville 405
Lessons from a Study of One Thousand Diphtheria Deaths. Bernard W. Carey, M. D., Boston 408

EDITORIALS.

The Eighty-Sixth Annual Meeting 412
State Board of Health Laboratory 412
The A. M. A. at Atlantic City 413
The Watauga Sanitarium 413
Perk Up 414
Delegates and Alternates 414
Still Unreported 414
The Program 414

MISCELLANEOUS.

Preliminary Program for Eighty-Sixth Annual Meeting 415
Notes and Comment 417
Miscellaneous 420

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

Just Issued—New (2d) Edition

Graves' Gynecology ***491 Illustrations 100 in Colors***

For this edition Dr. Graves has given his book a thorough revision and brought it completely up to date. New matter has been added to the extent of 115 pages, and 66 additional illustrations included. The illustrations in this work form a feature. There are 491 of them, 100 in colors—microscopic, gross pathologic, and operative technic, step by step.

The section on the relationship of gynecology to internal secretions has been rewritten and considerably amplified. Much new matter has been added under ovarian organotherapy and ovarian transplantation, the radium treatment of cancer, radium therapy in non-malignant gynecologic diseases. A new section discusses the relationship of gynecology to the sex impulse, based chiefly on the theories of Freud regarding infant sexuality. A number of new operations are described and illustrated, most of which have not before appeared in text-books.

Dr. Graves' work has always been noted for its lucid and forceful text, its broad conception, and the wealth and instructivie nature of its illustrations.

Octavo of 885 pages, with 491 illustrations, 100 in colors. By WILLIAM P. GRAVES, M. D., Professor of Gynecology of Harvard Medical School. Cloth, $7.75 net

W. B. SAUNDERS COMPANY **Philadelphia and London**

COLLEGE OF PHYSICIANS
LIBRARY
APR 5 1919
OF PHILADELPHIA

Borden's Malted Milk is the result of sixty-two years' experience in handling milk products.

It is the result of a system which safeguards the production at the dairy farm with rigidly sanitary conditions and protects the purity of the milk at every stage thereafter.

It is the result of an improved process by which malt ferments really act upon the casein of rich milk, partially predigesting the protein element and converting it into a partial peptone, facilitating complete and easy digestion and assimilation.

Samples, analysis and literature will be mailed on receipt of professional card.

Malted Milk Department

BORDEN'S CONDENSED
MILK COMPANY

Borden Building New York

Borden's
MALTED MILK

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.

2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

Guardians of Health

Antipneumococcic Serum Polyvalent

The superiority of Antipneumococcic Serum Polyvalent in Pneumonia treatment is clearly brought out by Medalia and Shiff, of the U. S. Army Medical Corps, in the Journal of the A. M. A., November 30, 1918.

Of thirty cases treated with Antipneumococcic Serum Polyvalent, without regard to the kind of infecting organism, not a single case proved fatal or developed empyema or otitis media.

On the other hand, in a series of twenty cases, where type determinations were made and Type I Serum was administered in the three cases showing Type I organisms, there were two deaths, four cases of empyema and three cases of otitis media.

In summarizing their conclusions the authors state: "These facts *** suggest the advisability of using the Polyvalent Serum as a routine measure until such time, at least, as monovalent serums can be produced against the respective individual types of infection."

Pneumo-Serobacterin (Types I, II, III) is indicated in the prevention and treatment of pneumonia.

It is supplied in packages of four syringes, single syringes and in 5-mil vials.

The use of bacterins in the prevention and treatment of pneumonia is recommended by Rosenow. See Journal A. M. A., March 16, 1918, p. 759. Fleming, Practitioner, April, 1917, p. 332. S. Solis-Cohen, Medical Record, April 27, 1918, p. 743. Lister Publication No. 10, South African Institute for Medical Research, 1917.

Pertussis Serobacterin and Bacterin

"The treatment of whooping-cough (pertussis) by means of bacterial vaccines is rational and efficient. The mortality in forty cases treated was zero. The vaccine should be used extensively as a prophylactic means, as it has reduced institutional whooping-cough from 40 to 7 per cent."*

Both Pertussis Serobacterin and Bacterin are furnished in 4-syringe packages, in single syringes, and in 5-mil vials.

*Bloom, New Orleans Medical and Surg. Journal, Vol. 70, No. 3, Sept. 1917, page 282.

Send for complete literature

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

H. K. Mulford Company

Manufacturing and Biological Chemists

Philadelphia, U. S. A.

37761

PANOPEPTON---Dynamic Food

Time and time again in clinical data it appears that really dynamic restoring effects follow the administration of Panopepton.

The explanation is simple: Panopepton carries the whole group of highly diffusible complex cleavage products derived from beef and whole wheat under the action of the gastric and pancreas enzymes; carries carbohydrates, proteins, amino-acids, vitamins, activating principles—all directly available for the stimulation and support of the organism.

PANOPEPTON in Pneumonia

Is a food of peculiar, desirable properties and special service. It evokes instant response because it is instantly assimilable; is restorative; fortifying, stimulant; conserves "energy." Ready for use; requires no preparation; enables frequent convenient feeding.

Fairchild Bros. & Foster
New York

Chloretone

A Broadly Serviceable Hypnotic and Sedative

Chloretone induces profound, refreshing slumber.
It is a sedative to the cerebral, gastric and vomiting centers.
It is relatively non-toxic.
It does not disturb the digestive functions.
It produces no depressing after-effects.
It is not "habit-forming."

◆ ◆ ◆

Chloretone has been pronounced the most satisfactory hypnotic and sedative available to the medical profession.

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

THE JOURNAL
OF THE
Tennessee State Medical Association

Owned, Published and Controlled by the Tennessee State Medical Association
ISSUED MONTHLY under Direction of the Trustees

Volume XI,
Number 12.
NASHVILLE, TENN., APRIL, 1919
Per Year, $2.00
Single Copy, 20 Cents

CONTENTS

ORIGINAL ARTICLES.

Page

Better Diagnosis and Better Case Records. By Richmond McKinney, M. D., Memphis ---- 433

The Functions of a State Board of Health. By Robert C. Derivaux, M. D. ---- 436

Surgery of the Gall Bladder and Biliary Ducts. By J. B. Haskins, M. D., Chattanooga ---- 439

Use of Influenza Vaccine as a Prophylactic. By Wm. A. Hinton, M. D., Boston; Edna Sypher Kane, M. D., Monson ---- 442

EDITORIALS.

Page.

Some Reflections of a Recent Presiding Officer ---- 447

Vetoed by the Governor ---- 448

Tuberculosis in Tennessee in 1918 ---- 448

Some Advertising ---- 450

West Tennessee Medical and Surgical Association ---- 451

MISCELLANEOUS.

Report of Secretary ---- 451

Report of Treasurer ---- 453

Notes and Comment ---- 462

Index Volume X ---- 462

This Association does not officially indorse the opinions presented in the different papers published herein.

Entered as second-class matter May 28, 1908, at the post office at Nashville, Tenn.

No matter how "new" a Dictionary may be in point of publication date, it is *not* new unless it contains the *new words.*

American Illustrated Dictionary

contains hundreds of new words *not in any other medical dictionary* regardless of date of publication. Here are a few of them:

acrophotodynia
acrostealgia
adenomyositis
aerasthenia
agitographia
akatanoesis
albuminocholia
aluvine
amerisia
antiblastic
aortotomy
aphrodisin
argulan
arsoferrin
auditory reflex
auxilin
boomerang leg
borsten
brachychronic
Bright's murmur
canavallin
careotrypanosis
cenesthopathia
cholesterase
chronaxia
coniasus
contratussin
cyanolophia
cytodesma
cytotropic serum
deamidase
dial-ciba
diarsenolized
dysgenics
encephalopsy
encyopyclitis
endocrisines
epornitic
ferrivine
genoform
giardia
habronemiasis
hemoculture
hormonic
hypoema
hypofunction
hypogenetic
instrol
isobolism
kaoliang
lipasuria
littritis
malignometer
mammala
mekonal
migrophen
neottin
neurosyphilis
norleucin
nucleosid
olikaguria
oxypurinase
palistrophia
parameter
parathyrin
pathophilia
perboral
peritoneoclysis
petromortis
phenolase
polystat
pyrolysis
regulation
rheobasis
rhinol
sanitary train
sex complex
siderogenous
spirochetalytic
spiroscope
stearentin
stomachosan
subcalorism
tarassis
thymona
tibialgia
tonsilloscope
uteroscope
valamin
valofin

Octavo of 1179 pages, with 327 illustrations, 115 in colors. *Ninth Edition.* By W. A. NEWMAN DORLAND, M. D.
Flexible leather, $5.00 net; thumb indexed, $5.50 net

W. B. SAUNDERS COMPANY **Philadelphia and London**

COLLEGE OF PHYSICIANS
LIBRARY
MAY 3 1919
PHILADELPHIA

BORDEN'S CONDENSED MILK
Trade Mark of Borden's Condensed Milk Co.
GAIL BORDEN
EAGLE BRAND
by which their Preserved Milk will hereafter be designated; and for additional protection against imposition, each label will bear the signature,
Gail Borden
BORDEN'S CONDENSED MILK CO.
NEW YORK, U. S. A.

When Mother's Milk Fails

The problem of artificially fed infants is of paramount importance at this time; first, because April and May are the principal birth-months of the year; and second, because the impending summer period inevitably increases the difficulty of obtaining fluid milk of assured purity.

Eagle Brand, consisting of selected, high-grade cow's milk and pure sugar, and prepared amid strictly sanitary conditions has been the standard infant-food for 62 years.

Samples and literature sent on receipt of professional card.

BORDEN'S CONDENSED MILK CO.
Established 1857
Borden Building - New York

Borden's
EAGLE BRAND

J. McI. PHILLIPS T. A. BERRY

PASTEUR
Anti-Rabic Treatment

SENT TO PHYSICIANS

This Laboratory Was a
PIONEER
In Sending Treatments by Mail

ESTABLISHED 1909

Telephone or Telegraph Orders to

JAMES MacILVAINE PHILLIPS, M. D.
2057 N. High St. Columbus, O.

Price $25.00

Louisville Neuropathic Sanatorium
Incorporoted
1412 South Sixth Street, Louisville, Ky.

An ethical institution for the care and treatment of Mental and Nervous Diseases and select cases of Alcoholic and Drug Habitues. **Rates, $25.00 to $35.00 per week,** including board and medical attention. Usual fees charged for office consultation.

W. E. GARDNER, A.B., M.D., Medical Director
Late Superintendent Central State Hospital

Guardians of Health

Antipneumococcic Serum Polyvalent

The superiority of Antipneumococcic Serum Polyvalent in Pneumonia treatment is clearly brought out by Medalia and Shiff, of the U. S. Army Medical Corps, in the Journal of the A. M. A., November 30, 1918.

Of thirty cases treated with Antipneumococcic Serum Polyvalent, without regard to the kind of infecting organism, not a single case proved fatal or developed empyema or otitis media.

On the other hand, in a series of twenty cases, where type determinations were made and Type I Serum was administered in the three cases showing Type I organisms, there were two deaths, four cases of empyema and three cases of otitis media.

In summarizing their conclusions the authors state: "These facts *** suggest the advisability of using the Polyvalent Serum as a routine measure until such time, at least, as monovalent serums can be produced against the respective individual types of infection."

Pneumo-Serobacterin (Types I, II, III) is indicated in the prevention and treatment of pneumonia.

It is supplied in packages of four syringes, single syringes and in 5-mil vials.

The use of bacterins in the prevention and treatment of pneumonia is recommended by Rosenow. See Journal A. M. A., March 16, 1918, p. 759. Fleming, Practitioner, April, 1917, p. 332. S. Solis-Cohen, Medical Record, April 27, 1918, p. 743. Lister Publication No. 10, South African Institute for Medical Research, 1917.

Pertussis Serobacterin and Bacterin

"The treatment of whooping-cough (pertussis) by means of bacterial vaccines is rational and efficient. The mortality in forty cases treated was zero. The vaccine should be used extensively as a prophylactic means, as it has reduced institutional whooping-cough from 40 to 7 per cent."*

Both Pertussis Serobacterin and Bacterin are furnished in 4-syringe packages, in single syringes, and in 5-mil vials.

---

*Bloom, New Orleans Medical and Surg. Journal, Vol. 70, No. 3, Sept. 1917, page 282.

Send for complete literature

MULFORD
FOR THE CONSERVATION OF LIFE
LABORATORIES

H. K. Mulford Company

Manufacturing and Biological Chemists

Philadelphia, U. S. A.

37761

PANOPEPTON---Dynamic Food

Time and time again in clinical data it appears that really dynamic restoring effects follow the administration of Panopepton.

The explanation is simple: Panopepton carries the whole group of highly diffusible complex cleavage products derived from beef and whole wheat under the action of the gastric and pancreas enzymes; carries carbohydrates, proteins, amino-acids, vitamins, activating principles—all directly available for the stimulation and support of the organism.

PANOPEPTON in Pneumonia

Is a food of peculiar, desirable properties and special service. It evokes instant response because it is instantly assimilable; is restorative, fortifying, stimulant; conserves "energy." Ready for use; requires no preparation; enables frequent convenient feeding.

Fairchild Bros. & Foster
New York

LET US SEND YOU THIS BOOK

"OUR AMPOULE LINE" is the title of a newly revised brochure that should be in the hands of every surgeon and physician. This booklet has 58 pages of text matter. It sets forth briefly, but comprehensively, the salient advantages of ampoule medication. It points out the essential elements of a perfect ampoule and explains the modern methods of preparing sterile solutions.

The book illustrates and describes the proper way to fill the hypodermic syringe from the glaseptic ampoule. It gives a full list of our sterilized solutions, with formulas, suggestions as to dosage, etc. It has a useful therapeutic index.

We shall be glad to send a copy of this booklet to any physician or surgeon on receipt of request. Say by postal or letter, "Send me your new Ampoule brochure." The little book will go forward to you promptly.

PARKE, DAVIS & COMPANY
DETROIT, MICHIGAN, U. S. A.